ADDENDUM

CITY OF LAKE FOREST OPPORTUNITIES STUDY PROGRAM CERTIFIED EIR (STATE CLEARINGHOUSE NUMBER 2004071039): WHISLER RANCH RESIDENTIAL PROJECT

prepared for:

CITY OF LAKE FOREST

Contact:
Carrie Tai, AICP
Senior Planner

prepared by:

THE PLANNING CENTER

Contact:
Konstanza Dobreva
Senior Planner

JULY 2010

ADDENDUM

CITY OF LAKE FOREST OPPORTUNITIES STUDY PROGRAM CERTIFIED EIR (STATE CLEARINGHOUSE NUMBER 2004071039): WHISLER RANCH RESIDENTIAL PROJECT

prepared for:

CITY OF LAKE FOREST

25550 Commercentre Drive
Suite 100
Lake Forest, CA 92630
Tel: 949.461.3400 • Fax: 949. 949-461-3512
E-mail: ctai@lakeforestca.gov

Contact:
Carrie Tai, AICP
Senior Planner

prepared by:

THE PLANNING CENTER

1580 Metro Drive
Costa Mesa, CA 92626
Tel: 714.966.9220 • Fax: 714.966.9221
E-mail: information@planningcenter.com
Website: www.planningcenter.com

Contact:
Konstanza Dobreva, JD
Senior Planner

COLF-02.0E

JULY 2010

Table of Contents

APPENDICES

A. Air Quality Study
B. Biological Studies
C. Geotechnical Study
D. Preliminary WQMP and Hydrology
E1. Phase I Site Assessment
E2. Limited Phase II Site Assessment
F. Fuel Modification Plan
G. Noise Study
H. Traffic Study

List of Figures

List of Tables

This page intentionally left blank.

1. Introduction and Project Description

1.1 SUMMARY OF CONCLUSIONS

This document states the basis for the City of Lake Forest's determination that the Whisler Ranch proposed by the Trumark Companies fall within the scope of the previously-certified Opportunities Study Final Program Environmental Impact Report (SCH # 2004071039) ("OSA PEIR") and that no supplemental or subsequent EIR may be required pursuant to section 21166 of the Public Resources Code. While the project differs in some minor respects from the project description in the OSA PEIR, those changes will not result in any new or substantially more severe impacts than those that have already been analyzed. Further, no new or substantially more severe impacts will result from any changes in circumstances surrounding the Whisler Ranch project, and none of the minor changes to the project, which are described more fully below, constitute new information of substantial importance that would affect the analysis of the potential significant effects of the project in the OSA PEIR. Therefore, as explained in greater detail below, no subsequent or supplemental environmental impact report is required because all potential effects of the proposed Project have been analyzed in the OSA PEIR and this Initial Study/Addendum.

1.2 PURPOSE AND SCOPE

Trumark Companies seeks City approval for a tentative tract map and use permit to construct a 68-unit single family home residential community on approximately 12.65 acres in the City of Lake Forest, Orange County, California. The site is currently undeveloped.

The Whisler Ranch project is part of the Lake Forest Opportunities Study. The purpose of the Opportunities Study was to analyze potential changes to the City's General Plan and zoning for seven properties originally zoned for industrial and commercial uses to facilitate their development for residential and commercial uses. The properties had been encumbered by the Marine Corps Air Station El Toro noise contours and "crash zone," which limited uses on those sites to nonresidential uses. Because MCAS El Toro is no longer used for air station or airport uses, the noise contours and crash zone encumbrances are no longer necessary.

The City prepared a Program EIR in order to assess the potential environmental effects of the proposed land use changes, at a programmatic level, on the seven identified sites. The Whisler Ranch site is within the Opportunities Study Area, referred to as Site 5. The Opportunities Study Area (OSA) Program EIR (PEIR) analyzed the proposal to change the site's General Plan designation from Professional Office (PO) to Low Density Residential (LDR) and the site's zoning designation from Agriculture (A1) to Residential Single-Family Planned Development (RS-PD). The OSA Program EIR assumed that Site 5 would be developed with 75 single-family units. The proposed 68-unit Whisler Ranch project fits within the 75-unit maximum assumption made for Site 5 in the OSA Program EIR.

The OSA PEIR analyzed development of the OSA and incorporated mitigation measures for all participating projects subject to the OSA Program which consisted of General Plan Amendments, Zone Changes, and Development Agreements (the GPA/ZC/DA) for the five participating properties. The analysis included in the OSA EIR identified environmental effects of development of the entire OSA program, including development of the project site with residential uses. Following publication of the draft OSA PEIR, the City developed a new reduced density alternative, referred to as Alternative 7. The EIR was recirculated to allow additional public review of Alternative 7, as well as to address new information including, among other issues, water

supply and climate change. There were no changes to Site 5's proposed land uses, which continue to anticipate a maximum of 75 residential units.

The OSA PEIR identified itself as a program EIR that would be relied on to assess approval of the development agreements, zoning changes and General Plan amendments that were included in the project description. (OSA PEIR, at pp. 2-20 to 2-21.) It also anticipated that additional environmental review would be prepared in conjunction with specific development proposals on each of the sites. (Id. at p. 2-22.)

On June 3, 2008, the City Council certified the OSA PEIR (SCH No. 2004071039). The City Council also approved the project, which consisted of the GPA/ZC/DAs. Future build-out of the OSA will occur subject to mitigation measures and the development regulations in the zoning code. The City filed a Notice of Determination of that approval and certification on June 4, 2008. No lawsuit was filed challenging the City's approval of the project or the environmental analysis. Therefore, pursuant to section 21167.2 of the Public Resources Code, the OSA PEIR must be conclusively presumed to be valid with regard to its use for later activities unless any of the circumstances requiring supplemental review exist. (Pub. Resources Code, § 21167.2; *Laurel Heights Improvement Ass'n v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1130 ("[a]fter certification, the interests of finality are favored"); *Santa Teresa Citizen Action Group v. City of San Jose* (2003) 114 Cal. App. 4th 689, 705-706.)

This Initial Study/Addendum provides the basis for an addendum to the previously certified OSA PEIR and serves as the environmental review of the proposed Whisler Ranch residential project, as required pursuant to the provisions of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., the State CEQA Guidelines, and the City of Lake Forest Local Guidelines for Implementing CEQA (Local CEQA Guidelines). This Initial Study/Addendum augments the analysis in the OSA Program EIR as provided in CEQA Guidelines Section 15164 and provides the basis for the City's determination that no supplemental or subsequent EIR is required to evaluate the project. Environmental analysis and mitigation measures from the OSA Program EIR have been incorporated into this Initial Study and modified as necessary to address the site specific conditions of the project. In cases where OSA mitigation measures have been satisfied by studies prepared for this Initial Study/Addendum, it is so noted.

Pursuant to the provisions of CEQA and the State CEQA Guidelines, the City of Lake Forest is the Lead Agency, charged with the responsibility of deciding whether or not to approve the proposed project. As part of the decision-making process, the City is required to review and consider the potential environmental effects that could result from construction and operation of the project. The analysis in this document discusses the adequacy of the OSA EIR related to the approval of the proposed residential project.

1.3 ENVIRONMENTAL PROCEDURES

Pursuant to CEQA, the State CEQA Guidelines, and the City of Lake Forest CEQA Guidelines, the City's review of the proposed Initial Study/Addendum will determine if approval of the discretionary actions requested and subsequent development could have a significant impact on the environment or cause a change in the conclusions of the OSA PEIR, and disclose any change in circumstances or new information of substantial importance that would substantially change the conclusions of the OSA PEIR. This Initial Study will provide the City of Lake Forest with information to document potential impacts of the proposed project.

Pursuant to Section 21166 of CEQA and Section 15162 of the State CEQA Guidelines, when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for the project unless the lead agency determines, on the basis of substantial evidence, that one or more of the following conditions are met:

1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

   a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration.

   b) Significant effects previously examined will be substantially more severe than identified in the previous EIR.

   c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives.

   d) Mitigation measures or alternatives that are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

Section 15164 of the State CEQA Guidelines states that an Addendum to an EIR shall be prepared "if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

This Initial Study/Addendum reviews the changes proposed by the project and any changes to the existing conditions that have occurred since the OSA PEIR was certified. It also reviews any new information of substantial importance that was not known and could not have been known with exercise of reasonable diligence at the time that the OSA PEIR was certified. It further examines whether, as a result of any changes or any new information, a subsequent EIR may be required. This examination includes an analysis of the provisions of Section 21166 of CEQA and Section 15162 of the State CEQA Guidelines and their applicability to the proposed project. This Initial Study/Addendum relies on use of the attached Environmental Analysis, which addresses environmental checklist issues on a section-by-section basis.

An Environmental Checklist is included in Section 2. The Environmental Checklist is marked with the findings of the Development Services Director as to the environmental effects of the proposed project in comparison with the findings of the OSA Program EIR certified in 2008. The Checklist has been prepared pursuant to Section 15168(c)(4) which states that "[w]here the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR."

On the basis of the findings of the OSA PEIR and the provisions of the State CEQA Guidelines, the City of Lake Forest, as the Lead Agency, determined that, as documented in this Addendum to the previously approved OSA PEIR, no supplemental or subsequent EIR is required to review the project application.

1.4 PREVIOUS ENVIRONMENTAL DOCUMENTATION

As explained above, on June 3, 2008, the City Council of the City of Lake Forest certified the Final Program EIR for the entire OSA General Plan Amendment and Zone Change and adopted Findings and a Statement of Overriding Considerations for those environmental effects associated with implementation of the OSA project. The City's certification of the OSA PEIR included adoption of findings for six areas of environmental impact that could not be avoided and were considered to be significant and adverse: (1) aesthetics, (2) agricultural resources, (3) air quality, (4) hydrology and water quality, (5) noise, and (6) population and housing. The Findings certifying the OSA PEIR also identified several environmental impact areas for which mitigation would reduce potential environmental impacts to a less than significant level. The proposed project will implement applicable mitigation measures included in the OSA PEIR.

This Initial Study/Addendum incorporates by reference all or portions of the OSA PEIR and the technical documents that relate to the proposed project or provide additional information concerning the environmental setting of the proposed project. The information disclosed in this Initial Study/Addendum is based on the following technical studies and/or planning documents:

- City of Lake Forest General Plan (2008)
- City of Lake Forest Zoning Ordinance
- City of Lake Forest Noise Ordinance
- OSA Program EIR and certifying resolutions and findings
- Technical studies, personal communications and web sites listed in Section 4, *References*

The documents are available for review at the Development Services Department, located at 25550 Commercentre Drive, Suite 100, Lake Forest, CA 92630.

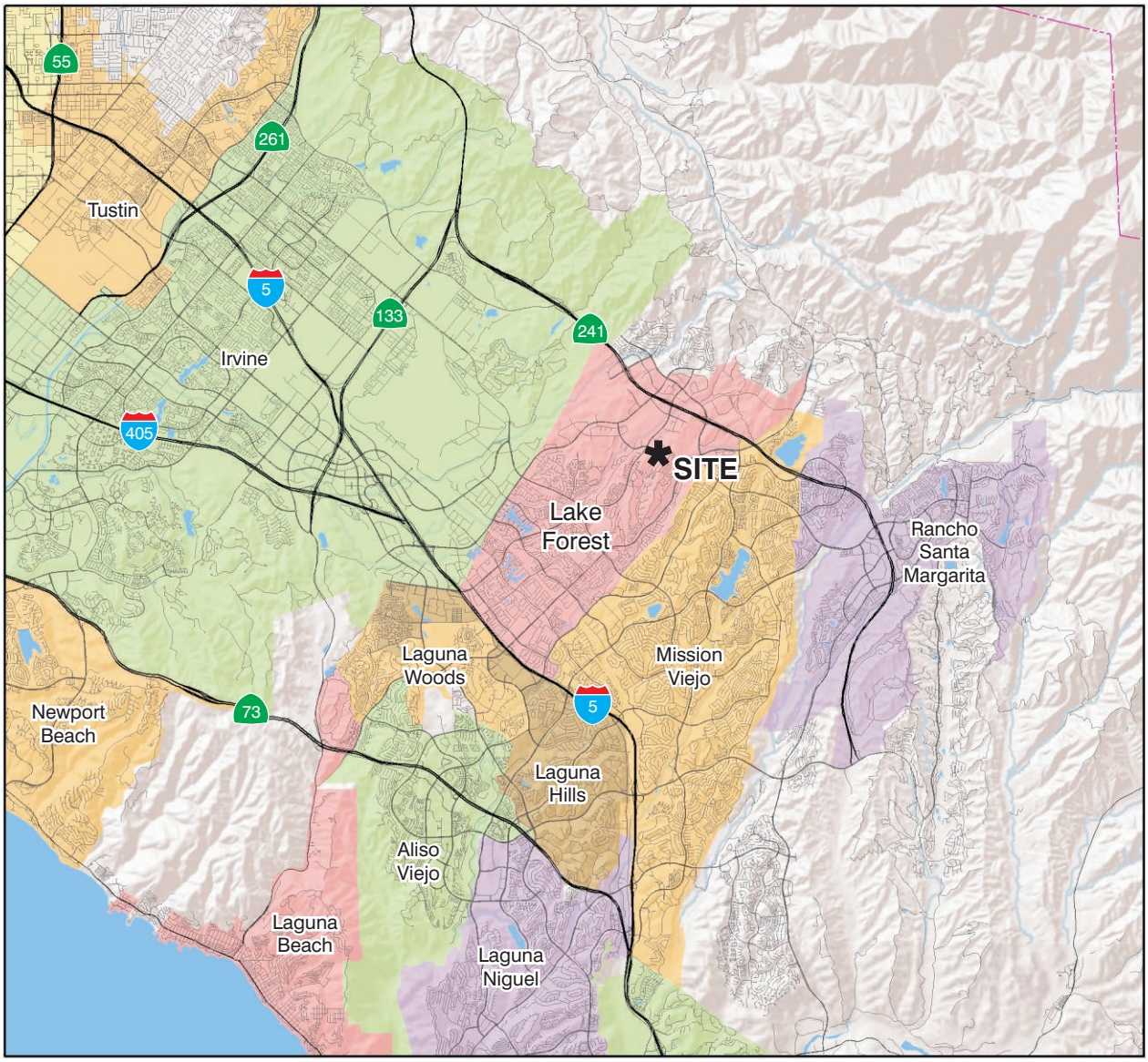
1.5 PROJECT LOCATION

The project site is located west of the intersection of Osterman Road and Regency Lane in the City of Lake Forest, California. The project site is generally bordered by Regency Lane to the north, Osterman Road to the east, residential to south and open space to the west. Figure 1, *Regional Location*, and Figure 2, *Local Vicinity*, show the location of the project site in the regional and local context of Orange County and Lake Forest, respectively.

The City of Lake Forest is surrounded by the City of Irvine to the west; an unincorporated area of Orange County to the north; the City of Mission Viejo to the southeast; and the Cities of Laguna Hills and Laguna Woods to the southwest. Terrain in the City ranges from the Saddleback Valley in the southern part of the City, to hills in the north that are continuous with foothills of the Santa Ana Mountains north of the City. Much of the City has a gentle southwest slope, with elevations ranging from approximately 300 feet above mean sea level (amsl) at the southwestern corner of the City to approximately 1,500 feet at the northern end of the City. Much of the City is developed with residential uses; commercial uses are concentrated near Interstate 5 (I-5) at the southern end of the City, State Route 241 (SR-241) in the northern part of the City, and along three major southwest-northeast arterial roadways: Bake Parkway, Lake Forest Drive, and El Toro Road.

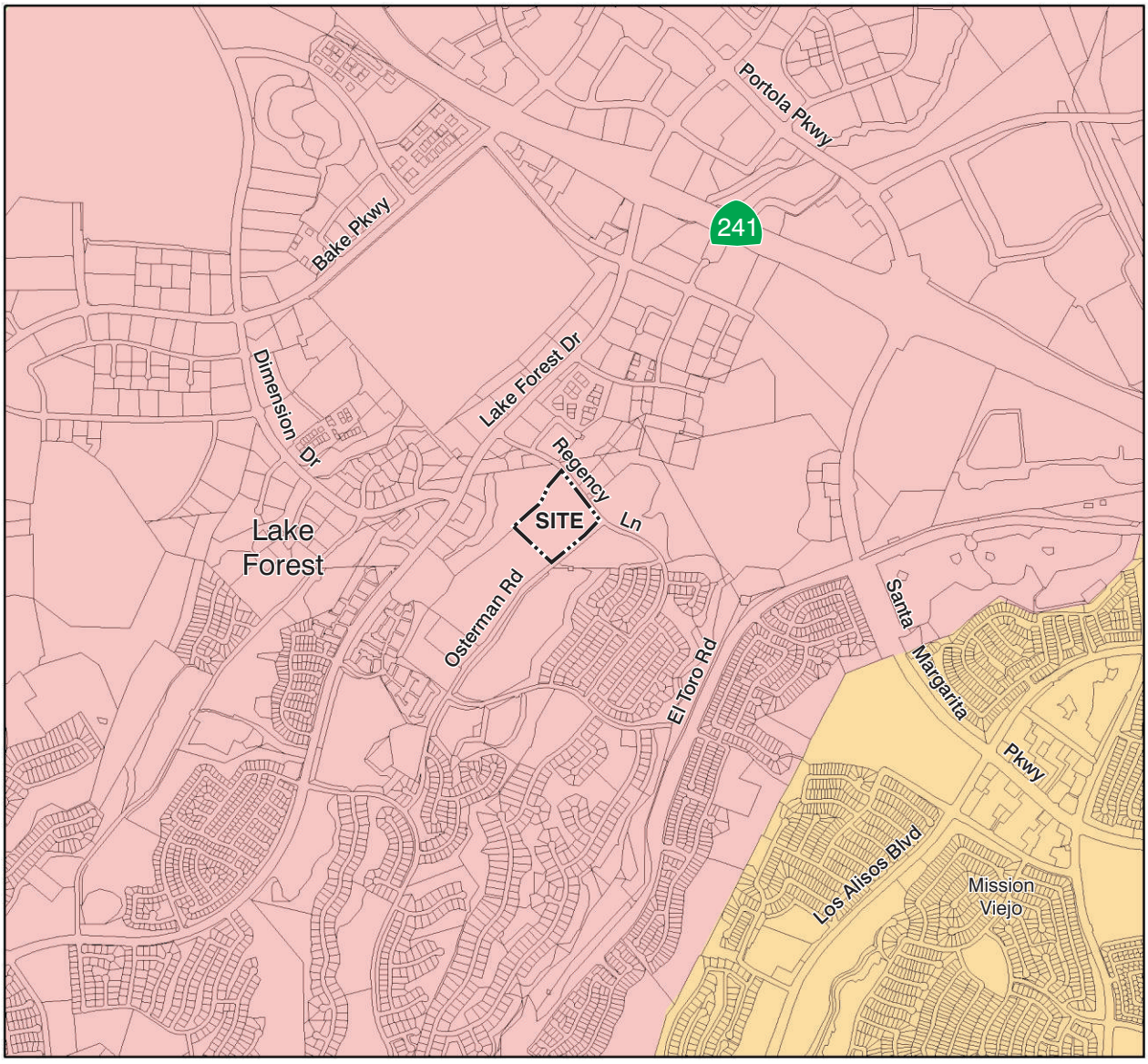
Regional access to the site is from I-5 or SR-241 via Lake Forest Drive or via Portola Parkway and El Toro Road. The project site is 12.65 acres in area and is generally bounded by Regency Lane to the north and Osterman Road to the east. The site's current address is 20010 Osterman Road, Lake Forest, California 92630 (APN #613-831-04)(see Figure 3, *Aerial Photograph)*.

Regional Location



This page intentionally left blank.

Local Vicinity



This page intentionally left blank.

Aerial Photograph

Feet
0
400

This page intentionally left blank.

1.6 ENVIRONMENTAL SETTING

1.6.1 Existing Land Use

The project site is currently undeveloped; there was formerly one residence onsite that was demolished in 2006. The site is the top and eastern and southern flanks of a small hill, with elevations onsite ranging from approximately 820 feet at the top of the hill in the northwestern part of the site to 735 feet at the northeast corner of the site. The site is vegetated, mostly with non-native grassland vegetation; there is some coastal sage scrub and non-native grassland/coastal sage scrub in the northern part of the site. See Figures 4a to 4c, *Site Photographs*.

1.6.2 Surrounding Land Use

Surrounding land uses include multi-family residential uses to the south (Westridge and Siena Terrace); Osterman Road and a park (Regency Park) to the southeast; and undeveloped land and open space to the northeast and northwest. Industrial/office uses are located to the north of the site, opposite Regency Lane.

1.7 PROJECT DESCRIPTION

1.7.1 Proposed Land Use

The project would consist of 68 single-family detached homes. Homes would range from 2,310 to 3,266 square feet on lot sizes ranging from 3,269 to 7,157 square feet. Each two-story home would include three to five bedrooms, 2.5 to 4 bathrooms, and an attached two-car garage. Homes are proposed to be generic architectural styles titled European cottage, Farmhouse, and Traditional. Exterior building materials consist of earth-toned and stucco or wood siding for building walls, concrete asphalt roofs, and brick or stone trim materials.

The site is an existing hillside ranging from approximately 820 feet at the top of the hill in the northwestern part of the site to 762 feet at the northeast corner of the site. The site is proposed to be graded with a combination of perimeter slopes and retaining walls and will generally retain its downhill slope. The project includes 101,000 cubic yards of total grading (cut and fill), to be balanced onsite (see Figure 6b, Conceptual Grading Plan). After grading, the top of the site would remain at approximately 820 feet with an open space area sloping downwards towards the residential building pads. The homes would be constructed on building pads ranging from 785 feet at the top of the site to 765 feet at the northeast corner, many of which have low retaining walls between them to absorb the grade difference. A combination of slopes and retaining walls will be used along the site's perimeter, on Osterman Road and Regency Lane street frontages as well as adjacent to the multi-family residential development. These walls are arranged either in a single or double configuration and will range in height from one to nine feet. The location of slopes next to the retaining walls allows for landscaping with trees and shrubs to screen the retaining walls from view. Exterior retaining wall surfaces are proposed to be constructed with split-face block with pilasters. Non-retaining property line walls would include wood paneling, open picket, or split-face block. (see Figure 5, *Conceptual Site Plan*, Figure 6a, *Conceptual Landscape Plan*, and Figure 6b, *Conceptual Grading Plan*).

The project would include development of five on-site private streets, three of which would be cul-de-sacs. One of the private streets would provide access to the site from Osterman Road on the site's southeast boundary. Four additional lettered lots are to be owned by a homeowner's association. A linear open area is proposed along the northwest property line within the required fuel modification zone. A storm drainage system is proposed, discharging to Regency Lane and to an existing storm drain under Osterman Road. The

project would include utility connections to existing water and sewer mains and dry utilities under surrounding roadways.

A total of 173 parking spaces would be provided. Resident parking would be accommodated by 136 spaces in the attached two-car garages. A total of 37 additional on-street parallel and perpendicular parking spaces consisting of 2 handicapped parking spaces, and 35 general on-street parking spaces would also be provided to satisfy the requirement of 14 required guest parking spaces and provide 21 additional neighborhood parking spaces.

1.7.2 Project Phasing

Development of the Whisler Ranch project would be completed in approximately 15 months, as listed below.

- site grading (101,000 total cubic yards, over approximately 90 days, to be balanced onsite).[1]
- building construction occur over 12 months, including 3 months for paving, painting and other finish work (approximately 12 months).

1.7.3 Project Design Features

The following project design features (PDFs) are incorporated into the proposed project and will help to reduce and avoid potential impacts:

Biological Resources

BR PDF-1 The project's western boundary, including the fuel modification zone, greenbelt, and block wall along the project site shall maintain wildlife connectivity between the open space to the north and west of the project site, by avoiding barriers to wildlife movement, particularly at the project's northwest interface with Regency Lane.

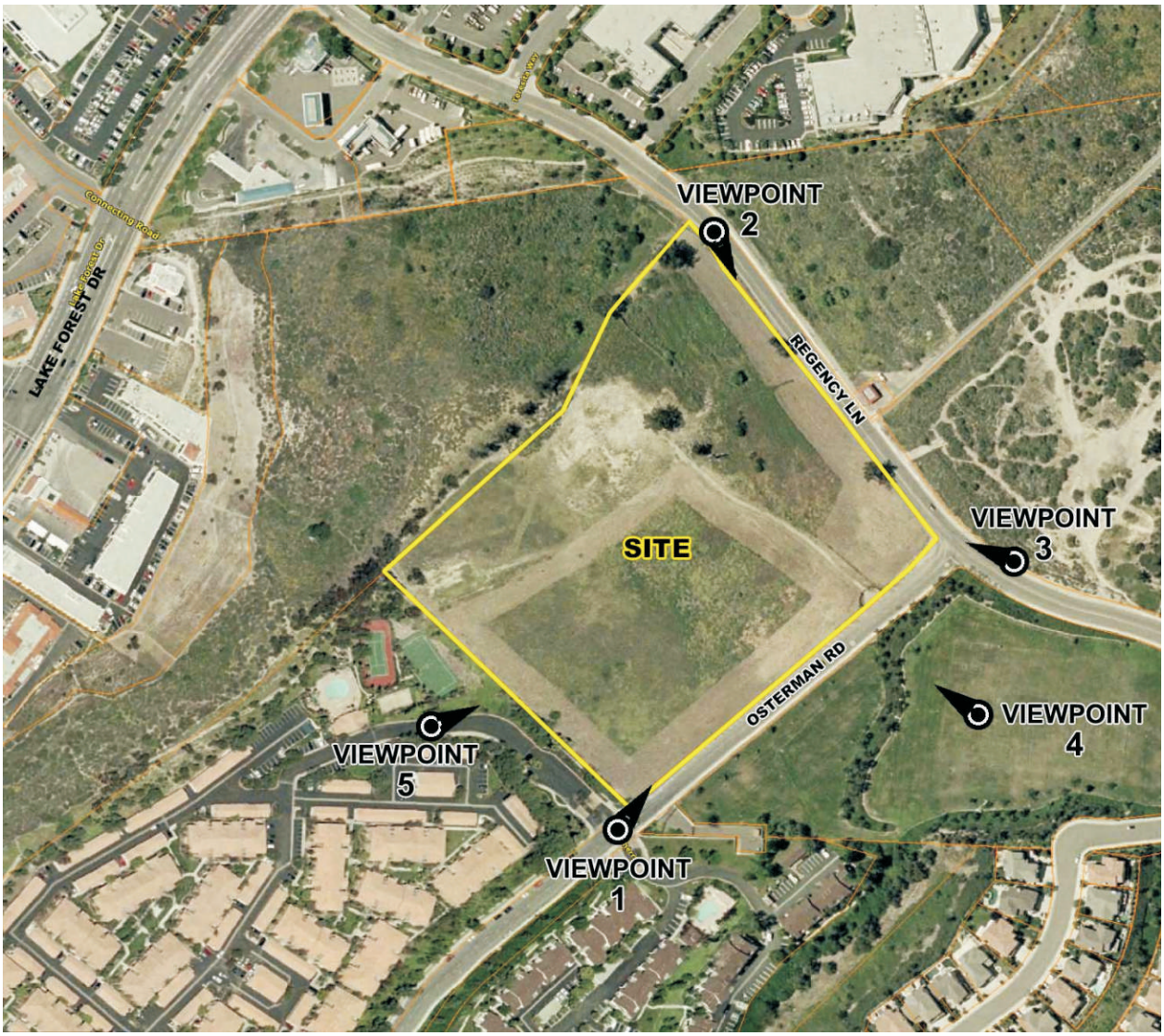
Greenhouse Gas Emissions

GCC PDF-1 Residential development shall be constructed with the following features, or their equivalent, to reduce energy consumption so long as they pose no conflict with applicable Building Code requirements: installation of a majority of Energy Star appliances; installation of high efficiency HVAC equipment with SEER rating of 13 or higher and thermostatic expansion valve (TXV) valve; installation of vinyl frame windows with dual-pane low emissivity glass; installation of natural gas clean burning fireplaces; installation of water efficient plumbing fixtures to reduce water consumption; and provision of an option to the homeowner to include electric vehicle charging facilities in the residence garage. (OSA Program EIR Project Design Feature GCCPDF2)

GCC PDF-2 Walking paths shall be incorporated into the street system of new residential development to provide alternative circulation routes to reach logical points of destinations such as schools, parks and retail areas (OSA Program EIR Project Design Feature GCCPDF3).

[1] The environmental analysis assumed 107,300 CY of total grading (cut and fill), including 15,200 CY of import to provide a more conservative analysis.

Site Photos Location Map



NOT TO SCALE

This page intentionally left blank.

Site Photos

Photo 1

Photo 2

Photo 3

This page intentionally left blank.

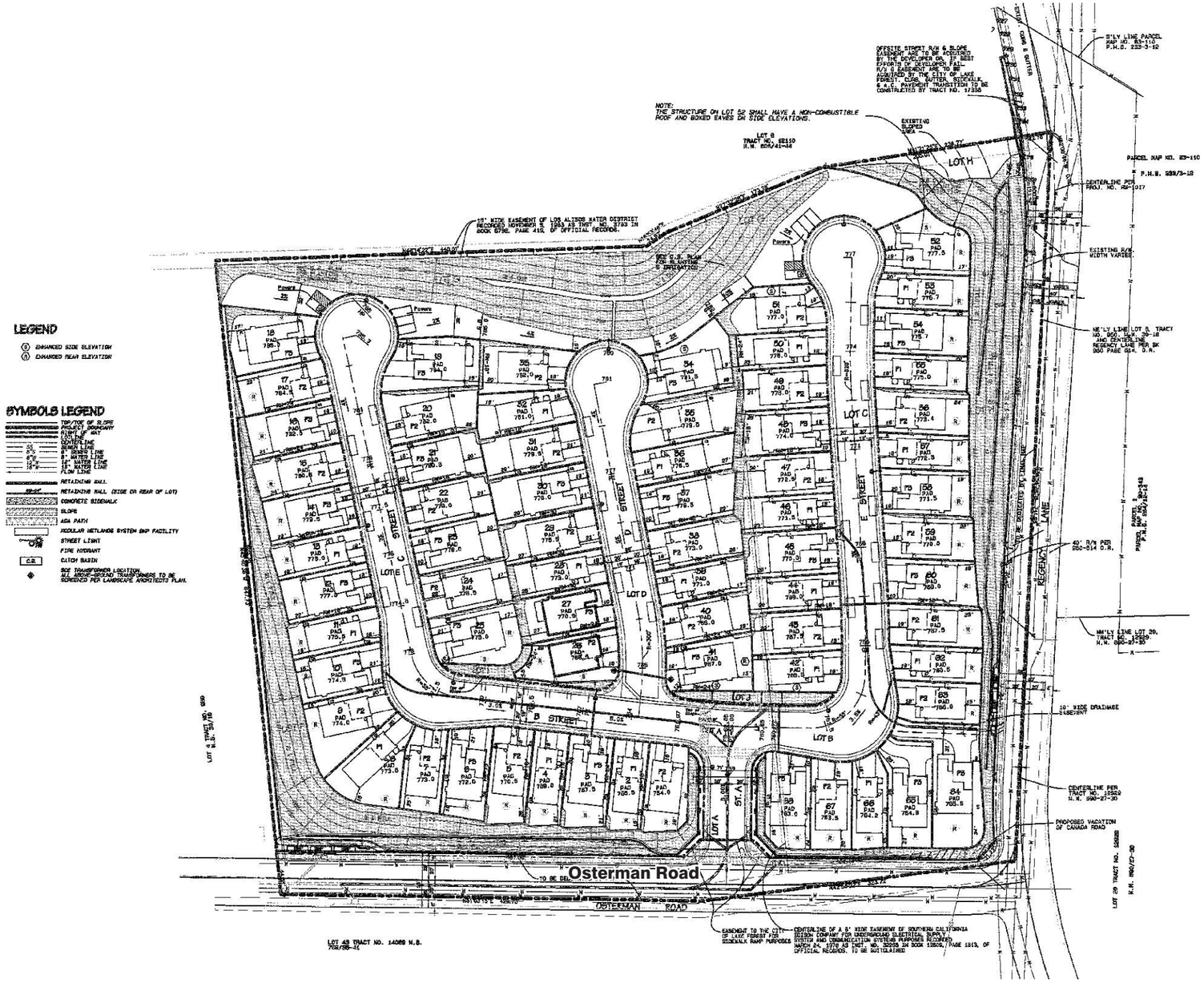
Site Photos

Photo 4

Photo 5

This page intentionally left blank.

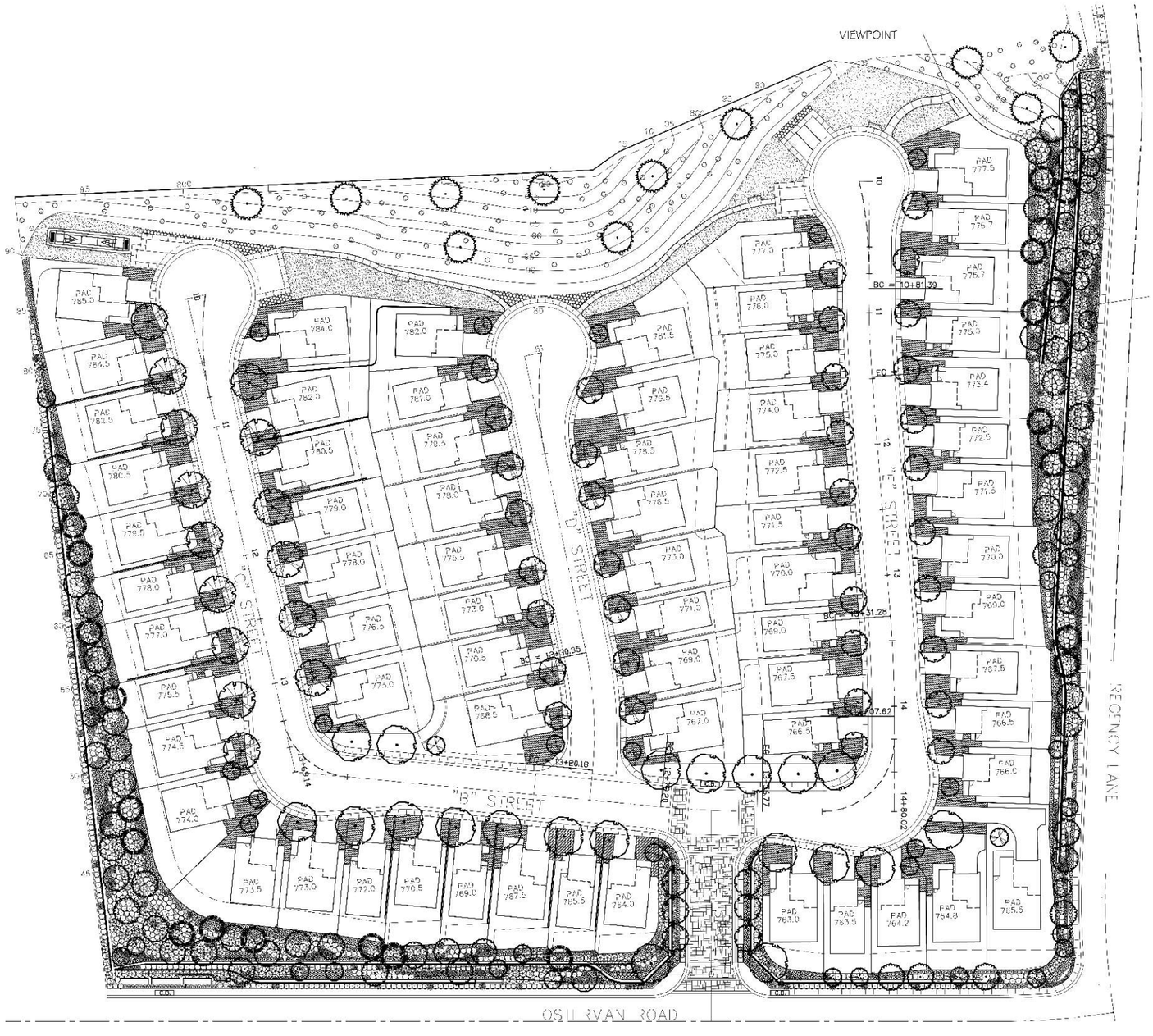
Conceptual Site Plan



Source: R. T. Quinn & Associates 2009

This page intentionally left blank.

Conceptual Landscape Plan



PLANT SCHEDULE

TREES

CODE	BOTANICAL NAME / COMMON NAME	CONT	QTY
AC	Alnus cordata / Italian Alder	15 gal	12
AS	Arbutus unedo / Strawberry Tree	24"box	23
CO	Cercis occidentalis / Western Redbud	15 gal	51
CC	Cinnamomum camphora / Camphor Tree	24"box	21
GA	Ginkgo biloba `Autumn Gold` TM / Maidenhair Tree	24"box	16
MGM	Magnolia grandiflora `Majestic Beauty` TM / Southern Magnolia	36"box	28
PE	Pinus eldarica / Afghan Pine	24"box	22
PT	Prunus cerasifera `Thundercloud` / Thundercloud Plum	24"box	16
TB	Tristania conferta / Brisbane Box	24"box	32

CONCEPT PLANT SCHEDULE

LARGE SCREENING SHRUBS	Ligustrum japonicum `Texanum` / Wax Leaf Privet Photinia x fraseri / Photinia Xylosma congestum `Compacta` / Compact Xylosma	507
MASSING SHRUBS	Abelia x grandiflora / Glossy Abelia Alyogyne huegelii `Monterey Bay` / Blue Hibiscus Leucophyllum frutescens `Green Cloud` TM / Green Cloud Texas Ranger Leucophyllum langmaniae `Rio Bravo` TM / Barometerbush Pittosporum tobira `Variegata` / Variegated Mock Orange Rhaphiolepis indica `Ballerina` / Ballerina Indian Hawthorn	1,029
SEASONAL COLOR SHRUBS	Ceanothus griseus horizontalis `Yankee Point` / California Lilac Lantana camara `Gold Rush` TM / Gold Rush Bush Lantana Lantana montevidensis `Purple` / Trailing Lantana	940
GROUND COVERS	Baccharis pilularis `Centennial` / Coyote Brush Convolvulus mauritanicus / Morning Glory Myoporum parvifolium `Prostratum` / Myoporum Rosmarinus officinalis `Prostratus` / Dwarf Rosemary	2,068
ACCENTS	Bougainvillea x `Jamaica White` / Jamaica White Bougainvillea Bougainvillea x `La Jolla` / Bougainvillea Bougainvillea x `San Diego Red` / Bougainvillea Muhlenbergia capillaris `Regal Mist` TM / Muhly	114
FUEL MODIFICATION PLANTINGS	PLANT MATERIALS TO BE COORDINATED WITH FIRE AUTHORITY -	130
FRONT YARD TYPICAL	SEE FRONT YARD TYPICAL FOR SHRUB, GROUND COVER, AND ACCENT SPECIES AND TYPICAL LOCATION -	37,735 sf
TURF	Buchloe dactyloides `UC Verde` / UC Verde Buffalo Grass	12,306 sf
FIRE SUPPRESSION GROUND COVER	Aptenia cordifolia / Red Apple	1,190 sf

** ALL TREES USED ON THE PERIMETER LANDSCAPING OR IN COMMON AREAS ALONG B STREET OR IN ZONE B SHALL BE A MINIMUM 36" BOX SIZE.

TREES ADJACENT TO THE MAIN ENTRANCE (ALONG A AND OSTERMAN ROAD) SHALL BE 48" BOX SIZE OR LARGEST SIZE AVAILABLE DEPENDING ON LOCATION

EACH INTERIOR STREET TO HAVE ITS OWN STREET AS FOLLOWS:
- STREET A - Magnolia grandiflora 'Majestic Beauty'
- STREET B - Cinnamomum camphora
- STREET C - Ginkho b loba 'Autumn Gold'
- STREET D - Prunus ceras fera 'Thundercloud'
- STREET E - Magnolia grandiflora 'Majestic Beauty'

ALL SHRUB AND GROUNDCOVER EXACT LOCATION AND QUANTITY TO BE DETERMINED BY LANDSCAPE ARCHITECT IN DESIGN DEVELOPMENT.

FRONT YARDS TO BE LANDSCAPED BY DEVELOPER. FOR FRONT YARD TYPICALS VARIETIES AND QUANTITIES SEE SHEET 7

0 Feet 120

Source: RBF Consultants, 2010

This page intentionally left blank.

Conceptual Grading Plan

Source: RBF Consultants, 2010

This page intentionally left blank.

Hazards and Hazardous Materials

HM PDF-1 In accordance with OCFA Alternative Materials and Methods Request, approved September 22, 2009, all edge homes along the northeastern (along Regency Lane) and northeastern (adjacent to the fuel modification zone) site boundaries shall meet all of the requirements of California Building Code Chapter 7A.

HM PDF-2 With the exception of edge homes, which must meet all California Building Code Chapter 7A requirements, the balance of the home construction within the development shall meet the following code sections of Chapter 7A:

- 704A.1 – 704A.1.5 Roofing
- 704A.2 – 704A.2.2 Attic Ventilation (All screening shall be 1/8 inch mesh)
- 704A.3.2.1 Exterior Wall Vents (All screening shall be 1/8 inch mesh)
- 704A.4.2- 704A.4.2.2 Underfloor, Appendages, and Unenclosed Underfloor Protection

HM PDF-3 A six-foot high block wall will be constructed along the site's western edge to assist in deflecting the direction of heat embers.

HM PDF-4 The Whisler Ranch residential project will incorporate the fuel modification zones and comply with all requirements of the OCFA Alternative Materials and Methods Request, approval, dated September 22, 2009 and included as Appendix F of the Whisler Ranch Initial Study/ Addendum.

Noise

N PDF-1 A 4-foot above grade solid wall shall be installed at the rear lot lines of lots located along the Regency Lane frontage (Lots 59-64) to reduce exterior noise to below the 65 dB CNEL maximum noise level.

N PDF-2 For rooms with windows facing Regency Lane and Osterman Road, the project applicant shall incorporate and have shown on the building plans supplemental ventilation in the form of operable windows (on the sides of the houses not facing Regency Lane and Osterman Road) or dedicated air ducting that brings fresh air into the rooms.

Transportation and Traffic

TT PDF-1 Along southbound Osterman Road at the Osterman Road/"A" Street intersection, the applicant shall paint the curb red for 150 linear feet from the curb return and place a no parking sign along the side of the road to facilitate a defacto right turn lane (with a minimum 19-foot width), to the satisfaction of the City Engineer.

TT PDF-2 Along eastbound Regency Lane at the Regency Lane/Osterman Road intersection, the applicant shall paint the curb red for 150 linear feet from the curb return and place a no parking sign along the side of the road to facilitate a defacto right turn lane (with a minimum 19-foot width), to the satisfaction of the City Engineer.

TT PDF-3 Along northbound Osterman Road at the Regency Lane/Osterman Road intersection, the applicant shall paint the curb red for 150 linear feet from the curb return and place a no

parking sign along the side of the road to facilitate a defacto right turn lane (with a minimum 19-foot width), to the satisfaction of the City Engineer.

TT PDF-4 Along eastbound and westbound "A" Street, the applicant shall paint the curbs red and place no parking signs along the entire length of the road.

TT PDF-5 Participation in Lake Forest Transportation Mitigation Program (LFTM) is required as part of the Development Agreement. (City of Lake Forest Opportunities Study Program EIR (EIP Associates 2008)).

1.8 EXISTING ZONING AND GENERAL PLAN

The existing zoning district for the site is Residential Single-Family/Planned Development (RS-PD); the General Plan land use designation is Low Density Residential, permitting residential development at two to seven dwelling units per net acre.

1.9 CITY ACTION REQUESTED

The applicant is seeking approvals for the implementation of the proposed project. The intent of this Initial Study/Addendum is to allow the City of Lake Forest, other responsible agencies, and interested parties to evaluate the environmental impacts of the proposed project, thereby enabling them to make informed decisions with respect to the requested entitlements. The proposed project would require the following entitlements from the City of Lake Forest:

- **Tentative Tract Map No. 17336 (TTM 17336).** A tentative tract map is one of the processes used to subdivide real property. Typically, the tract map is used to create five or more lots. This subdivision includes full developed improvements, which would include paved streets, curb, gutter and sidewalk, fire hydrants, street lights, comprehensive drainage system, water and sewer service, and other infrastructure found in developed areas. The project (Tentative Tract Map 17336 would allow for individual ownership of lots and the "common area" that will be regulated and maintained by a homeowners association.
- **Use Permit 2009-18.** Use Permits are generally required to ensure compatibility of the development with the surrounding land uses. Applications for use permits are reviewed for the configuration, design, location and potential impacts of the proposed use, compatibility of the proposed use with surrounding uses, suitability of the use to the site, and to ensure the protection of the public convenience, health, interest, safety and welfare. The proposed project specifically requires a Use Permit to achieve flexible development standards permitted by the Planned Development combining district. The flexible development standards being requested are minimum lot size and maximum building site coverage. The applicant is requesting lot sizes ranging from 3,269 to 7,157 square feet where a 7,000 square-foot minimum is required by the Residential Single-Family (RS) zone. As for site coverage, the RS zone allows for each home to cover its respective lot by 35 percent. However, the Planned Development District allows for a flexible standard which allows for a 40 percent project area wide coverage in-lieu of site coverage for individual lots when open space is distributed and provided in a manner that allows for common usage (subject to Planning Commission approval). The project proposes a site coverage area of 23.8 percent and includes a linear area at the western portion of the site which will provide common neighborhood amenities and a pedestrian connection.

2. Environmental Checklist

2.1 BACKGROUND

1. **Project Title:** Whisler Ranch (TTM 17336 and UP 2009-18)

2. **Lead Agency Name and Address:**
   City of Lake Forest
   25550 Commercentre Drive, Suite 100
   Lake Forest, CA 92630

3. **Contact Person and Phone Number:**
   Carrie Tai, AICP, Senior Planner
   (949) 461-3466

4. **Project Location:** The project site is 12.65 acres at the southwest corner of Regency Lane and Osterman Road in the City of Lake Forest, Orange County.

5. **Project Sponsor's Name and Address:**
   Trumark Companies
   4185 Blackhawk Plaza Circle, Suite 200
   Danville, CA 94506

6. **General Plan Designation:** Low Density Residential (LDR) with an allowable density of two to seven dwelling units per net acre.

7. **Zoning:** Residential Single-Family Planned Development (RS-PD).

8. **Description of Project**:
   The project consists of a tentative tract map and use permit for development of 68 two-story detached single-family homes, ranging in size from 2,310 to 3,266 square feet in floor area, each with an attached two-car garage. The project would include the development of five private streets onsite with site access from Osterman Road.

9. **Surrounding Land Uses and Setting**:
   Multi-family residential uses to the south; Osterman Road and a park (Regency Park) to the southeast; and undeveloped land and open space to the northeast and northwest. To the north opposite Regency Lane are industrial/office uses.

10. **Other Public Agencies Whose Approval Is Required**
    Orange County Fire Authority: Fuel Modification Plan Approval
    Santa Ana Regional Water Quality Control Board: Water Quality Management Plan (WQMP) Approval
    San Diego Regional Water Quality Control Board: WQMP Approval
    California Department of Fish and Game (CDFG): Approval of mitigation plan for impacts to species listed under California Endangered Species Act or otherwise given special status by CDFG.

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

2.3 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☒ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	*Date*
Printed Name	*For*

2.4 EVALUATION OF ENVIRONMENTAL IMPACTS

This section is intended to provide evidence to substantiate the conclusions set forth in the Environmental Checklist. The section briefly summarizes conclusions in the OSA PEIR, and discusses the consistency of the Whisler Ranch project with the findings contained in the PEIR. Mitigation measures referenced are from the Mitigation Monitoring Program adopted as part of the OSA PEIR.

In Chapter 2 the Environmental Checklist identifies the environmental effects of the modified project in comparison with the project approved on June 3, 2008. This comparative analysis has been undertaken, pursuant to the provisions of the CEQA, to provide the factual basis for determining whether any changes in the project, any changes in the circumstances, or any new information requires additional environmental review or preparation of a subsequent or supplemental EIR. The textual changes to the EIR and related Findings and Statement of Overriding Considerations will not involve new significant environmental impacts, a substantial increase in severity of significant impacts previously identified, substantial changes to the circumstances under which the project is undertaken involving such new impacts or such a substantial increase in the severity of significant impacts, or new information of substantial importance as meant by CEQA Guidelines Section 15162. As such this Initial Study/Addendum is the appropriate means to document these textual changes. The basis for the findings listed in the Environmental Checklist are explained in Section 3, *Environmental Analysis*.

2.4.1 Terminology Used in the Checklist

For each question listed in the Environmental Checklist, a determination of the level of significance of the impact is provided. Impacts are categorized in the following categories:

Substantial Change in Project or Circumstances Resulting in New Significant Effects. A Subsequent EIR is required when 1) substantial project changes are proposed or substantial changes to the circumstances under which the project is undertaken, and 2) those changes result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects, and 3) project changes require major revisions of the EIR.[2]

New Information Showing Greater Significant Effects than Previous EIR. A Subsequent EIR is required if new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified, shows 1) the project will have one or more significant effects not discussed in the EIR; 2) significant effects previously examined will be substantially more severe than shown in the EIR; or 3) mitigation measures or alternatives previously found not to be feasible would in fact be feasible (or new mitigation measures or alternatives are considerably different) and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.[3]

New Mitigation or Alternative to Reduce Significant Effect is Declined. A Subsequent EIR is required if new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the EIR was certified shows 1) mitigation measures or alternatives previously found not to be feasible would in fact be feasible (or new mitigation measures or alternatives are considerably different) and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.[4] A Supplement to an EIR can be prepared if the criterion for a Subsequent EIR is met, and only minor additions or changes

[2] CEQA Guidelines. California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, § 15162, as amended.
[3] CEQA Guidelines. § 15162.
[4] CEQA Guidelines. § 15162.

would be necessary to make the EIR adequately apply to the modified project.[5]

Minor Technical Changes or Additions. An Addendum to the EIR is required if only minor technical changes or additions are necessary and none of the criteria for a subsequent EIR is met.[6]

No Impact. A designation of no impact is given when the modified project would have no changes in the environment as compared to the original project analyzed in the EIR.

[5] CEQA Guidelines. § 15163.
[6] CEQA Guidelines. § 15164.

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	*Substantial Change in Project or Circumstances Resulting in New Significant Effects*	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
I. AESTHETICS. Would the project:					
a) Have a substantial adverse effect on a scenic vista?					X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?					X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?					X
II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?					X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?					X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X	
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X	

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	Substantial Change in Project or Circumstances Resulting in New Significant Effects	New Information Showing Greater Significant Effects than Previous EIR	New Mitigation or Alternative to Reduce Significant Effect is Declined	Minor Technical Changes or Additions	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?					X
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?					X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?					X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?					X
d) Expose sensitive receptors to substantial pollutant concentrations?					X
e) Create objectionable odors affecting a substantial number of people?					X
IV. BIOLOGICAL RESOURCES. Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?					X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?					X

Issues	Subsequent or Supplemental EIR			Addendum to EIR	
	Substantial Change in Project or Circumstances Resulting in New Significant Effects	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?					X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?					X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?					X
V. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?					X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?					X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?					X
d) Disturb any human remains, including those interred outside of formal cemeteries?					X
VI. GEOLOGY AND SOILS. Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	Substantial Change in Project or Circumstances Resulting in New Significant Effects	New Information Showing Greater Significant Effects than Previous EIR	New Mitigation or Alternative to Reduce Significant Effect is Declined	Minor Technical Changes or Additions	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.					X
ii) Strong seismic ground shaking?					X
iii) Seismic-related ground failure, including liquefaction?					X
iv) Landslides?					X
b) Result in substantial soil erosion or the loss of topsoil?					X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?					X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?					X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?					X
VII. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?					X
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?					X

Issues	Subsequent or Supplemental EIR			Addendum to EIR	
	Substantial Change in Project or Circumstances Resulting in New Significant Effects	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?					X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?					X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?					X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?					X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?					X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?					X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?					X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X	

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	*Substantial Change in Project or Circumstances Resulting in New Significant Effects*	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
IX. WATER RESOURCES. Would the project:					
a) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?					**X**
b) Create or contribute runoff water which would exceed the capacity o existing or planned stormwater drainage systems.					**X**
c) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?					**X**
d) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?					**X**
e) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?					**X**
f) Cause inundation by seiche, tsunami, or mudflow?					**X**
g) Deposit sediment and debris materials within existing channels obstructing flows?					**X**
h) Exceed the capacity of a channel and cause overflow during design storm conditions.					**X**
i) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?					**X**
j) Adversely change the rate, direction, or flow of groundwater?					**X**

Issues	Subsequent or Supplemental EIR			Addendum to EIR	
	Substantial Change in Project or Circumstances Resulting in New Significant Effects	New Information Showing Greater Significant Effects than Previous EIR	New Mitigation or Alternative to Reduce Significant Effect is Declined	Minor Technical Changes or Additions	No Impact
k) Have an impact on groundwater that is inconsistent with a groundwater management plan prepared by the water agencies with the responsibility for groundwater management.					X
l) Violate any water quality standards or waste discharge requirements?					X
m) Cause a significant alteration of receiving water quality during or following construction					X
n) Substantially degrade groundwater quality?					X
o) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.					X
p) Create or contribute runoff water which would generate provide substantial additional sources of polluted runoff?					X
q) Substantially degrade water quality by discharge which affects the beneficial uses (i.e. swimming, fishing, etc.) of the receiving or downstream waters?					X
r) Increase in any pollutant for which the receiving water body is already impaired as listed on the Clean Water Act Section 303(d) list.					X
X. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?					X
b) Substantially conflict with existing on-site or adjacent land use due to project-related significant unavoidable indirect effects (e.g., noise, aesthetics, etc) that preclude use of the land as it was intended by the General Plan?					X

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	*Substantial Change in Project or Circumstances Resulting in New Significant Effects*	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
c) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?					**X**
XI. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?					**X**
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?					**X**
XII. NOISE. Would the project result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?					**X**
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?					**X**
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?					**X**
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?					**X**
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?					**X**

Issues	Subsequent or Supplemental EIR			Addendum to EIR	
	Substantial Change in Project or Circumstances Resulting in New Significant Effects	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?					X
XIII. POPULATION AND HOUSING. Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?					X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?					X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?					X
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
a) Fire protection?					X
b) Police protection?					X
c) Schools?					X
d) Parks?					X
e) Other public facilities?					X
XV. RECREATION.					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?					X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?					X

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	*Substantial Change in Project or Circumstances Resulting in New Significant Effects*	*New Information Showing Greater Significant Effects than Previous EIR*	*New Mitigation or Alternative to Reduce Significant Effect is Declined*	*Minor Technical Changes or Additions*	*No Impact*
XVI. TRANSPORTATION/TRAFFIC. Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?					X
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?					X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?					X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?					X
e) Result in inadequate emergency access?					X
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?					X
g) Result in inadequate parking capacity?					X
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?					X

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	Substantial Change in Project or Circumstances Resulting in New Significant Effects	New Information Showing Greater Significant Effects than Previous EIR	New Mitigation or Alternative to Reduce Significant Effect is Declined	Minor Technical Changes or Additions	No Impact
b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?					X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?					X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?					X
e) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?					X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?					
g) Comply with federal, state, and local statutes and regulations related to solid waste?					X
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?					X

	Subsequent or Supplemental EIR			Addendum to EIR	
Issues	Substantial Change in Project or Circumstances Resulting in New Significant Effects	New Information Showing Greater Significant Effects than Previous EIR	New Mitigation or Alternative to Reduce Significant Effect is Declined	Minor Technical Changes or Additions	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)					X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?					X

3. Environmental Analysis

Section 2.3 provided a checklist of environmental impacts. This section provides an evaluation of the impact categories and questions contained in the checklist and identifies project design features (PDFs), and OSA Program EIR mitigation measures, if applicable.

3.1 AESTHETICS

a) Have a substantial adverse effect on a scenic vista?

No Impact. The project site is a 12.65-acre undeveloped hillside ranging from approximately 820 feet at the top of the hill in the northwestern part of the site to 735 feet at the northeast corner of the site. The site is vegetated, mostly with non-native grassland vegetation; there is some coastal sage scrub and non-native grassland/coastal sage scrub in the northern part of the site. The area surrounding the project site is developed, and includes various planned residential communities consisting of a mix of single family and multi-family homes to the south and southeast, office commercial uses to the northwest, as well as open space and Regency Park. The proposed project would directly alter the existing view of the project site from adjacent uses and roadways by the development of 68 single-family residences, a linear open area, and associated infrastructure (i.e., streets, utilities) on the currently vacant site. However, the view of the project site would not be considered a scenic vista, as the site is not a visually prominent site visible from many areas within the City nor does it contain unique or unusual scenic resources. Furthermore, the proposed residential development would not be in vivid contrast to the surrounding development in that the site is currently surrounded by residential uses. Lastly, the project proposes an extensive landscape plan to ensure that proposed buildings and retaining walls are softened through the use of various plantings in a manner that is consistent with surrounding residential development (see Figure 6, *Conceptual Landscape Plan*). The project site is visible from the residential uses to the south and southeast, Regency Park, and the residential units beyond, as well as Osterman Road and Regency Lane. The project site is not visible from Lake Forest Drive. Therefore, the proposed project would not have a substantial adverse effect on a scenic vista. Impacts would remain less than significant as analyzed in the OSA PEIR.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. As analyzed in the OSA PEIR, project development would not damage scenic resources, including those within a designated scenic highway**.** Scenic resources are undisturbed, as are unique vistas, natural or undisturbed areas, or officially recognized areas. Although undeveloped, there are no natural rock outcroppings onsite. The trees on the site and along the perimeter are typical of ornamental vegetation in urban areas and are not scenic resources.

There are no scenic or historic resources onsite. The County of Orange and California Department of Transportation (Caltrans) designate roadways that provide scenic views as official scenic highways or corridors (Caltrans 1996). The County of Orange Master Plan of Scenic Highways designates Santiago Canyon Road and El Toro Road (between Santa Margarita Parkway and Live Oak Canyon Road) as scenic routes. These scenic routes, while within the City, are not located in close proximity to the site such that current views experienced from these roadways would be affected by any development that would occur on the project site. The proposed project is not located near a designated state scenic highway or adjacent to

local freeways or roadways that are designated or eligible scenic roadway (Caltrans 2003). Therefore, there are no impacts to scenic resources, including, but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway. No mitigation measures are required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Minor Technical Changes or Additions. As analyzed in the OSA PEIR, implementation of the proposed project would alter the existing visual character of the project site. The native and non-native species of trees, shrubs, and grass located on the site would be removed and replaced with a residential community consisting of 68 single-family residences, a linear open area, and associated infrastructure (i.e., streets, utilities). Photographic simulations were prepared to assist in assessing the potential significance of the change in visual character of the site and its surroundings. These photographs were taken from offsite locations, where the project site is most visible. Figure 7, *View Simulation Vantage Points* provides a map of these view points. Figure 8, View Simulation 1, is a snap shot of the existing and proposed view from the southeast corner of the project site (along Osterman Drive) looking north toward the project site. Figure 9, *View Simulation 2*, provides a snap shot of the existing view from the northwestern edge of the project site (along Regency Lane) looking northeast toward the project site. Figure 10, *View Simulation 3*, depicts the intersection of Regency Lane and Osterman Road, looking southwest from Regency Lane. In comparing the existing views and proposed views photographs, the visual simulations show that the residential uses would be visible from Osterman Drive and Regency Lane. The view of the natural vegetation and hillside topography would be replaced with residences and ornamental landscaping. The existing hillside topography of the site would be altered but the residences located nearest Osterman Drive and Regency Road would be set back from the roadway to minimize the overall visual effects of the residential buildings. Figure 11, *Conceptual Landscape Setback Cross Sections*, provides several cross-sections that detail the landscape treatment, perimeter walls, buffers, and setbacks that are proposed at particular locations on Regency Lane and Osterman Road, along the northern and eastern property lines. As shown, the homes along Regency Lane and Osterman Road would be set back a minimum of 25 feet from the back of sidewalk.

The proposed retaining walls are an addition to the project description not analyzed in the OSA PEIR. The retaining walls would be visible along Regency Lane and Osterman Drive; however, they would be buffered by extensive street tree plantings and landscaping provided along the slope area between the residences and the roadway and are designed to comply with Lake Forest's *Retaining Wall Design Guidelines*, approved by the City Council on June 15, 2010. The objective of the Guidelines is to ensure that proposed retaining walls are constructed in an aesthetically pleasing and high quality manner that fits within the character of the community. Lastly, the retaining walls that front Osterman Drive and Regency Lane are proposed to be terraced gradually, with extensive landscape treatment also provided along the slope areas.

The proposed residential uses would be visible from the adjacent multi-family residential development, as well as the single-family homes beyond Regency Park. However, the project proposes both onsite and landscaping that would provide a visual buffer between the proposed development and the existing multi-family residential development to the south. The use of this landscaping along the project site boundaries would soften the visual character of the proposed development in a manner that is consistent with surrounding residential developments. Furthermore, the overall architectural style of the homes and building materials that have been selected would not be in inconsistent in appearance with existing developments that are adjacent to the project site. While the proposed architectural style differs slightly (for example, designed during a different time period) from the surrounding developments, it would not be in direct conflict with the overall character of the area. Lastly, with approval of the tentative tract map and use permit, the proposed project would be consistent with the City of Lake Forest zoning requirements and development standards relative to the height and massing of the homes. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the project site and its surroundings. No

significant impacts will occur and the proposed project does not require any changes to the OSA PEIR related to aesthetics.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

No Impact. The project would not create substantial new sources of light or glare, and would not cause adverse impacts to daytime or nighttime views in the area.

The project site is currently unlit and there are no existing sources of light onsite. The proposed project would include outdoor lighting for safety and security purposes. As a result, the project area would be illuminated due to the addition of streetlights, security lighting, lighting within the residences, as well as transient vehicular lighting from cars traveling on adjacent roadways. According to the City of Lake Forest Significance Thresholds Guide in existence at the time of the OSA PEIR preparation, a project would have been considered to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area where the project will have outdoor illumination of more than one and a quarter (1 ¼) foot candles from dusk to dawn, where the project will use reflective building materials or where the project will use neon or similar signage or architectural features. The City of Lake Forest General Plan assumes that the project site would ultimately be developed with single-family residential uses. The types and numbers of exterior light fixtures per residential unit in the proposed project would be similar to those in surrounding residential uses. Lighting is not expected to utilize outdoor illumination that would be more than 1 ¼ foot candles from dusk to dawn. In addition, the lighting would only be partially visible to the surrounding residential uses due to the topography of the hillside and the landscaping proposed to encompass the site. Also, the proposed residential development is set back from existing residential uses that abut the site to the south and southeast, and proposed light sources would be shielded and directed onsite to preclude the nighttime illumination from spilling over onto the adjacent residential neighborhoods.

Lighting was found to be a significant and unavoidable impact in the OSA PEIR; however, the 1.25 foot-candle threshold for outdoor lighting in the City's CEQA Significance Thresholds Guide was eliminated in 2009. Mitigation measures 3.1-1 through 3.1-4 from the OSA PEIR are incorporated for the present project to ensure that the proposed lighting will not create any impacts on adjacent properties.

Transient sources of light associated with the proposed project (i.e., automobile lights) would be similar to that which occurs on the adjacent streets. With regard to glare, the proposed project is not expected to create unusual or isolated glare impacts since the buildings would be constructed of materials that provide for minimal glare potential. The use of neon or glare-generating materials is not proposed. Therefore, the proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts would remain less than significant and the project does not require any changes to the OSA PEIR related to aesthetics.

Applicable OSA PEIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR and modified as necessary based on project-specific approvals. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

AE MM-1 (OSA Program EIR Mitigation Measure 3.1-1) Prior to issuance of a grading permit for the project, the applicant shall submit a lighting plan to the Development Services Department for review and approval. The plan shall specify the lighting type and placement to ensure that the

effects of security lighting are limited as a means of minimizing night lighting and the associated impacts to aesthetics. Prior to completion of final plans and specifications, the City of Lake Forest shall review the plans and specifications to ensure that all light fixtures will use glare-control visors, arc tube suppression caps, and will use a photometric design that maintains 70 percent of the light intensity in the lower half of the light beam. Completion of this measure shall be monitored and enforced by the City of Lake Forest. 3.1-1

AE MM-2 (OSA Program EIR Mitigation Measure 3.1-2) All lighting and advertising (including signage) shall be oriented in such a manner to reduce the amount of light shed onto adjacent residential development and incorporate "cut-off" shields as appropriate to minimize any increase in lighting at adjacent residential properties.

AE MM-3 (OSA Program EIR Mitigation Measure 3.1-3) All interior floodlights, exterior parking lot, and other security lighting shall be directed away from adjacent uses and towards the specific location intended for illumination. State-of-the-art fixtures shall be used, and all lighting shall be shielded to minimize the production of glare and light spill onto both existing and proposed residential units. A lighting design plan shall be submitted to the City for approval at the time of building permit issuance for each specific development project.

AE MM-4 (OSA Program EIR Mitigation Measure 3.1-4) Landscape illumination and exterior sign lighting shall follow the City's Municipal Code and applicable Planned Community design guidelines and be accomplished with low-level unobtrusive fixtures.

View Simulation Vantage Points

NOT TO SCALE

This page intentionally left blank.

View Simulation 1

Existing

Proposed

This page intentionally left blank.

View Simulation 2

Existing

Proposed

This page intentionally left blank.

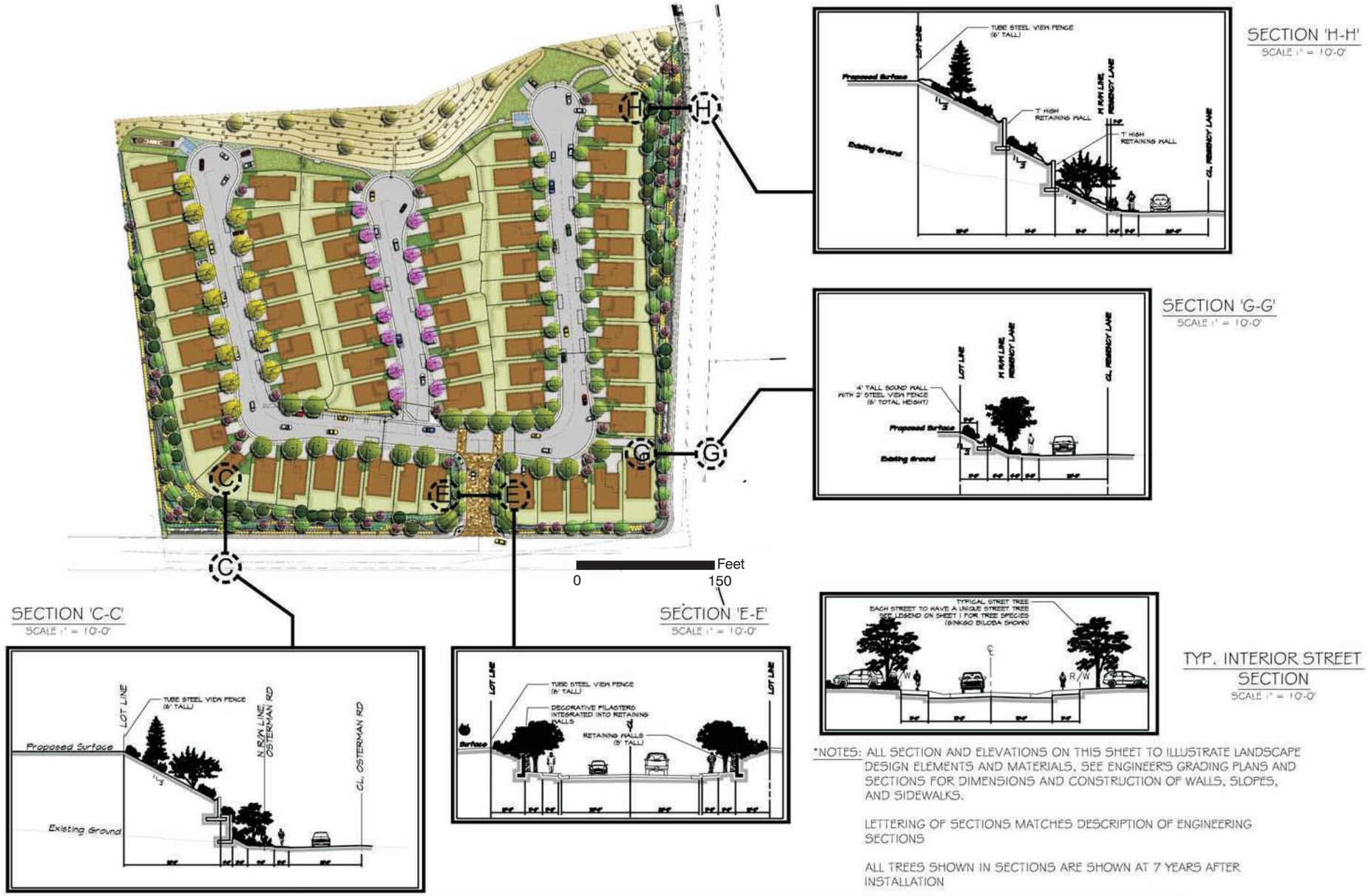
View Simulation 3

Existing

Proposed

This page intentionally left blank.

Conceptual Landscape Setback Cross Sections



Source: RBF Consulting 2010

This page intentionally left blank.

3.2 AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. As discussed in the OSA PEIR, the project site is not mapped as any category of farmland by the Division of Land Resource Protection (DLRP 2009). The site is mapped as "Other Land", which is land, other than urban land, which is not suitable for agricultural production; including low-density rural development, brush, wetlands, and riparian areas. Project development would not convert any category of mapped farmland to non-agricultural use, and no new impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. As discussed in the OSA PEIR, Site 5 was zoned A1 general agricultural and if the proposed future development were to occur under the then existing agricultural zoning designations, the development would conflict with zoning for agricultural use. However, implementation of the OSA Project specifically amended the General Plan and zoning designations for the project area and the agricultural zoning in the Site 5 was revised to reflect the newly permitted residential uses. The project site is not subject to a Williamson Act contract (DLRP 2004). The existing zoning district onsite is Residential Single Family Planned Development (RS-PD); agricultural use is not permitted in the RS-PD district (City of Lake Forest Municipal Code Chapters 9.48 and 9.124). Project development would not conflict with zoning for agricultural use or a Williamson Act contract, and therefore no new impact would occur and the project does not require any changes to the OSA PEIR related to agriculture.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Minor Technical Changes or Additions. The above CEQA Threshold was not adopted at the time of the OSA PEIR and was not incorporated into the EIR analysis. This change to environmental requirements necessitates analysis of potential impacts to forest land and timberland. Forest land is defined as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits" (California Public Resources Code Section 12220[g]). Timberland is defined as "land…which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees" (California Public Resources Code Section 4526). The project site is zoned for residential use (single-family dwellings or mobile homes). The site is not zoned as forest land, timberland, or Timberland Production, and

project development would not conflict with such zoning. No new impact would occur and the project does not require any changes to the OSA PEIR related to forest land or timberlands.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

Minor Technical Changes or Additions. The above CEQA Threshold was not adopted at the time of the OSA PEIR and was not incorporated into the EIR analysis. This change to environmental requirements necessitates analysis of potential impacts to forest land. No forest or woodland was identified among six plant communities identified onsite during a survey of the site for sensitive plants (PCR 2010). Project development would not cause loss of forest land or convert forest land to non-forest use. No new impact would occur and the project does not require any changes to the OSA PEIR related to forest land or timberlands.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. Development of the project would not otherwise convert farmland or forest land. There is no forest land, mapped farmland, or agricultural production onsite or adjacent to the site. Based on the site location and its urban nature, the project would not cause conversion of farmland or forest land. No new impacts would occur and the project does not require any changes to the OSA PEIR related to forest land or timberlands.

3.3 AIR QUALITY

The analysis in this section is based in part on the Air Quality Impact Analysis technical report prepared by Hans Giroux & Associates which is included in Appendix A to this Initial Study. It includes background discussion on the air quality regulatory setting, meteorological conditions, existing ambient air quality in the vicinity of the project site, methodology, and air quality modeling data.

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the Air Quality Management Plan (AQMP). It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals contained in the AQMP. There are two key indicators of consistency (SCAQMD 1993):

Indicator 1: Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.

Indicator 2: Whether the project would exceed the assumptions in the AQMP. The AQMP strategy is, in part, based on projections from local general plans.

A project is consistent with the regional AQMP if it does not create new violations of clean air standards, exacerbates any existing violations, or delays a timely attainment of such standards. The project-related emissions were shown to be less than the SCAQMD CEQA significance thresholds. Because the emissions are less than the applicable thresholds, clean air standards would not be violated or substantially worsened and the project would be consistent under the first indicator.

The "timely attainment" test is typically evaluated in determining whether air pollution emissions associated with a proposed project have been adequately incorporated into the AQMP. The AQMP is based upon patterns of existing and future development which are used to calculate the regional distribution of air pollution emissions. These inputs into regional air pollution modeling are derived from SCAG's Regional Comprehensive Plan (RCP). At the time the City certified the OSA PEIR for the Opportunities Study project, it was determined that the Opportunities Study project was not evaluated in the RCP. However, the City also found that the Opportunities Study would generate fewer emissions than the prior General Plan land use designations and zoning, which were accounted for in the RCP. Although the Opportunities Study was not consistent with the AQMP, it was environmentally superior.

The proposed Whisler Ranch is Site 5 in the now adopted Opportunities Study. The OSA PEIR air quality impact analysis (January 2006) assumed 75 maximum dwelling units on the Whisler Ranch property. The proposed project is 68 units. The proposed development plan would generate slightly less air pollution than the project that has already been analyzed in the OSA PEIR. Therefore, the proposed project would not exceed the assumptions in the AQMP and would be consistent under the second indicator. Consequently, as the project would be consistent under both indicators, it would not subvert the timely attainment objective of the South Coast Air Basin AQMP and impacts are less than significant in this regard. As a result, the project does not require any changes to the OSA PEIR related to air quality.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

No Impact. The following describes project-related impacts from short-term construction activities and long-term operation of the proposed single-family residences.

Short-Term Air Quality Impacts

Exhaust emissions will result from on and off-site heavy equipment. The types and numbers of equipment will vary among contractors such that such emissions cannot be quantified with certainty. Table 3.3-1 shows the prototype construction equipment fleet assumed for purposes of modeling. Initial clearing will gradually shift toward building construction and then for finish construction, paving, landscaping, etc. The project build-out schedule will depend upon market demand. Grading of 11.83 buildable acres, including 101,000 cubic yards of cut-and-fill was assumed to occur in a 3-month period. Phased residential construction was assumed to occur over 12 months, including 3 months for paving, painting and other finish work.

Table 3.3-1
Project Construction Equipment Mix

Construction Activity	Construction Equipment Type	Number of Construction Equipment
Grading	Grader	1
	Dozer	1
	Tractor/Loader/Backhoes	2
	Scrapers	2
	Loader	1
	Water Truck	1
Paving	Cement Mixer	4
	Paver	1
	Roller	1
	Paving Equipment	2
Construction	Welder	1
	Forklift	2
	Tractor/Loader/Backhoes	1

The URBEMIS2007 computer model was used to calculate emissions from the construction equipment mix shown in Table 3.3-1. Construction emissions estimates are shown in Table 3.3-2.

Table 3.3-2
Construction Activity Emissions (pounds/day)

Activity	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Grading[1]						
No Mitigation	8.4	77.5	37.0	0.0	389.7	83.9
With Mitigation	8.4	77.5	37.0	0.0	27.7	8.3
Construction, Painting, Coating and Paving						
No Mitigation	17.9	23.8	26.3	0.0	2.0	1.8
With Mitigation	17.9	23.8	26.3	0.0	2.0	1.8
SCAQMD Threshold	**75**	**100**	**550**	**150**	**150**	**55**

Source: URBEMIS2007, Version 9.2.4.
Notes:
[1] The air quality analysis used a conservative approach for site grading. The analysis assumes 92,101 cubic yards of cut and 107,330 cubic yards of fill and import of fill. However, grading of the project site would be balanced onsite at 101,000 cubic yards and no export or import would be required.

As shown in this table, maximum daily emissions from grading activities would exceed the SCAQMD regional emissions threshold for PM_{10} and $PM_{2.5}$ without fugitive dust control. However, fugitive dust control measures are incorporated as a part of the OSA PEIR mitigation measure MM 3.3-7 (listed as AQ MM-7 below). Incorporation of AQ MM-7 would reduce peak daily construction-related emissions of PM_{10} and $PM_{2.5}$ to below their respective SCAQMD regional thresholds. Therefore, construction-related air quality impacts would be less than significant with incorporation OSA mitigation measures and the project does not require any changes to the OSA PEIR related to air quality.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

AQ MM-1 (OSA PEIR Mitigation Measure MM 3.3-1) The developer shall require by contract specifications that all diesel-powered equipment used would be retrofitted with after-treatment products (e.g., engine catalysts) to the extent that it is readily available in the South Coast Air Basin. Contract specifications language shall be reviewed by the City prior to issuance of a grading permit.

AQ MM-2 (OSA PEIR Mitigation Measure MM 3.3-2) The developer shall require by contract specifications that all heavy-duty diesel-powered equipment operating and refueling at a project site within the Project Area would use low-NOx diesel fuel to the extent that it is readily available and cost effective (up to 125 percent of the cost of California ARB diesel) in the South Coast Air Basin (this does not apply to diesel-powered trucks traveling to and from the project sites within the Project Area). Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

AQ MM-3 (OSA PEIR Mitigation Measure MM 3.3-3) The developer shall require by contract specifications that alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) and low-emission diesel construction equipment would be utilized to the extent that the equipment is readily available and cost effective in the South Coast Air Basin. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

AQ MM-4 (OSA PEIR Mitigation Measure MM 3.3-4) The developer shall require by contract specifications that construction equipment engines will be maintained in good condition and in proper tune per manufacturer's specification for the duration of construction. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

AQ MM-5 (OSA PEIR Mitigation Measure MM 3.3-5) The developer shall require by contract specifications that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

AQ MM-6 (OSA PEIR Mitigation Measure MM 3.3-6) The developer shall require by contract specifications that construction operations rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines to the extent feasible. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

AQ MM-7 (OSA PEIR Mitigation Measure MM 3.3-7)The developer shall implement dust control measures consistent with SCAQMD Rule 403— Fugitive Dust during the construction phases of new project development. Contract specification language shall be reviewed for inclusion of this language by the City prior to issuance of a grading permit. The following actions are currently recommended to implement Rule 403 and have been quantified by the SCAQMD as being able to reduce dust generation between 30 and 85 percent depending on the source of the dust generation:

- Apply water and/or approved nontoxic chemical soil stabilizers according to manufacturer's specification to all inactive construction areas (previously graded areas that have been inactive for 10 or more days)
- Replace ground cover in disturbed areas as quickly as possible
- Enclose, cover, water twice daily, or apply approved chemical soil binders to exposed piles with 5 percent or greater silt content
- Water trucks will be utilized on the site and shall be available to be used throughout the day during site grading to keep the soil damp enough to prevent dust being raised by the operations. Water active grading sites at least twice daily
- Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour over a 30-minute period
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer), in accordance with Section 23114 of the California Vehicle Code
- Sweep streets at the end of the day
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip on a gravel surface to prevent dirt and dust from impacting the surrounding areas.
- Apply water three times daily or chemical soil stabilizers according to manufacturers' specifications to all unpaved parking or staging areas or unpaved road surfaces
- Post and enforce traffic speed limits of 15 miles per hour or less on all unpaved roads

Long-Term Air Quality Impacts

The greatest project-related air quality concern derives from the new vehicle trips that will be generated by residential uses at project completion. At project build-out, proposed residential uses at the Whisler Ranch development may generate 651 net daily trips with an associated 6,574 vehicles miles traveled per day.

Project energy demand met by burning fossil fuels in regional power plants will add a small NO_X increment from project operations and add very minute amounts of other pollutants. Residential uses also generate small quantities of organic compounds from cleaning products, personal care products, landscape maintenance, cooking, etc. The individual residential contribution of each such source is small, but becomes significant when summed over a large quantity of residences.

The URBEMIS2007 model was used to calculate area source emissions and the resulting vehicular operational emissions for an assumed project build-out year of 2011. The results are shown in Table 3.3-3.

Table 3.3-3
Project-Related Emissions Burden
(in pounds per day)

Sources	*VOC*	*NO_X*	*CO*	*SO_2*	*PM_{10}*	*$PM_{2.5}$*
Stationary Sources	4.4	1.1	3.5	0.0	<0.1	<0.1
Mobile Sources	4.9	6.0	61.8	0.1	11.3	2.2
Total Emissions	**9.3**	**7.2**	**65.3**	**0.1**	**11.4**	**2.2**
SCAQMD Regional Threshold	55	55	550	150	150	55
Significant?	No	No	No	No	No	No

Source: URBEMIS2007, Version 9.2.4.

As shown in the table, Whisler Ranch development would not cause the SCAQMD's recommended regional threshold levels to be exceeded. Therefore, air quality impacts from project-related operational emissions would be less than significant and the project does not require any changes to the OSA PEIR related to air quality.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

No Impact. According the SCAQMD methodology, any project that does not exceed, or can be mitigated to less than the daily threshold values will not add significantly to the cumulative impact. Construction and operational activities would not result in emissions in excess of SCAQMD's daily threshold values, and therefore the project would not result in cumulatively considerable net increase in criteria pollutants.

d) Expose sensitive receptors to substantial pollutant concentrations?

No Impact. The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO_X), carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

Construction LSTs

LST screening tables are only available for 25, 50, 100, 200 and 500 meter source-receptor distances. The closest Whisler Ranch perimeter is approximately 130 feet (40 meters) from the nearest residential use to the southwest. However, the closest Whisler Ranch site boundary is a corner comprised of a slope which will undergo minimal grading such that the distance to the nearest residential lot with substantial grading is approximately 180 (55 meters) feet. Therefore, utilizing data for a five-acre site and a source receptor distance of 50 meters, the following thresholds are determined (pounds per day) and shown in Table 3.3-4.

Table 3.3-4
LST and Project Emissions

Saddleback Valley	CO	NO_X	PM_{10}	$PM_{2.5}$
SCAQMD Localized Threshold	2,102	189	37	11
Proposed Project				
Max Unmitigated	37	77	390	84
Max Mitigated	37	77	28	8

As shown in the table, with incorporation of mitigation measure AQ MM-7, air pollutant emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ would be below the LSTs for construction. Because LST thresholds would not be exceeded for the more conservative concentrated five-acre disturbance assumption, they would also not be exceeded if the same emissions are dispersed over the larger 11.83 acre total project area. Therefore, project-related construction emissions would not expose sensitive receptors to substantial pollutant concentration and construction LST impacts would be less than significant.

The OSA PEIR concluded that pollution concentration impacts to sensitive receptors would be significant and unavoidable. However, the proposed project is using LSTs for project-level evaluation and is carrying over the OSA PEIR mitigation measures (AQ MM-7) regarding construction emissions of particulate matter (PM_{10} and $PM_{2.5}$).

Carbon Monoxide Hotspots

Micro-scale air quality impacts have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for carbon monoxide (CO). However, the SCAQMD has demonstrated in the CO attainment redesignation request to EPA that there are no "hot spots" anywhere in the air basin, even at intersections with much higher volumes, much worse congestion, and much higher background CO levels than anywhere in the project area. If the worst-case intersections in the air basin have no "hot spot" potential, any local impacts near the facility will be well below thresholds with an even larger margin of safety.

To verify this conclusion, a CO screening analysis was performed at intersections surrounding the project. One-hour CO concentrations were calculated on the sidewalks adjacent to these intersections. The A.M and P.M. peak one-hour levels (ppm above background) are shown in Table 3.3-5.

Table 3.3-5
One-Hour CO Concentrations (ppm)

Intersections	Existing	Existing + Project
AM Peak Hours		
Osterman Rd & Regency Lane	0.3	0.3
Osterman Road & "A" Street	DNE	0.1
PM Peak Hours		
Osterman Rd & Regency Lane	0.3	0.3
Osterman Road & "A" Street	DNE	0.1

DNE = Does Not Exist

Existing peak one-hour local CO background levels in 2008 in the project vicinity were 2.0 ppm. Combined worst-case background (2.0 ppm) plus local (0.3 ppm) concentrations equate to one-hour CO levels of 2.3 ppm which are far below the one-hour standard of 20 ppm. Therefore, sensitive receptors in the area would

not be substantially affected by CO emissions generated by operation of the proposed project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

e) Create objectionable odors affecting a substantial number of people?

No Impact. The project would not emit objectionable odors that would affect a substantial number of people. The threshold for odor is if a project creates an odor nuisance pursuant to SCAQMD Rule 402, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The proposed single-family residences would not generate objectionable odors that would lead to a public nuisance, therefore operational impacts would be less than significant.

During construction activities, construction equipment exhaust, application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary, intermittent in nature, and would not constitute a public nuisance. Impacts associated with construction-generated odors would be less than significant and the project does not require any changes to the OSA PEIR related to air quality.

3.4 BIOLOGICAL RESOURCES

The analysis in this section is based in part on OSA Program EIR and on the following technical studies which are included in Appendix B to this Initial Study.

- *Results of the Sensitive Plant Surveys for the Whisler Ranch Project Site, City of Lake Forest, Orange County, California*, PCR Services Corporation, June 10, 2010
- *Biological Memo for the Whisler Project Site, City of Lake Forest, Orange County, California*, PCR Services Corporation, June 11, 2010

Central and Coastal Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP)

The preparation of a comprehensive natural resources management conservation plan for central and coastal Orange County was completed in 1996. The Central and Coastal Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) and the associated Implementation Agreement (IA) covers thirteen cities. The City of Lake Forest City Council passed a motion in September 1994 to participate in the NCCP. The purpose of the NCCP/HCP is to create a multispecies, multihabitat reserve system and to implement a long-term management program. It was developed to satisfy the

requirements for both the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA).

The NCCP/HCP generally addresses vegetation communities and species associated with upland coastal sage scrub habitat. It is intended to focus on multiple species and habitats and address conservation of these species on a regional context. The three main target species are the coastal California gnatcatcher, cactus wren, and orange-throated whiptail. There are 26 other species that are also identified and afforded management protection under the NCCP/HCP. An additional 10 species of plants and animals that are either federally listed or treated as if they were listed according to FESA Section 10(a) are addressed within the NCCP/HCP.

The measures incorporated in the NCCP/HCP are intended to address the federal, state, and local project-specific mitigation requirements for the species and habitats addressed in the NCCP/HCP under FESA, CESA, CEQA, NEPA, and the Migratory Bird Treaty Act (MBTA). The NCCP/HCP is intended to streamline review of individual projects with respect to the species and habitats addressed in the NCCP/HCP, and to provide for an overall Habitat Reserve System.

The proposed project is not within the reserve system of the NCCP/HCP, and therefore, the development restrictions of the NCCP/HCP do not apply. However, since the OSA lies within the area of the NCCP/HCP, landowners not participating in the NCCP/HCP are provided with different mitigation options than those provided for participating landowners. Non-participating landowners may satisfy the requirements of the FESA and CESA in relation to the species covered under the NCCP/HCP one of three ways:

- On-site avoidance of take
- Satisfaction of the applicable FESA and CESA regulations through the regular permitting and consultation process (outside the NCCP/HCP)
- Payment of a mitigation fee to the nonprofit management organization established by the NCCP/HCP

Field Surveys

Two focused surveys for sensitive plant species were conducted by PCR Services Corporation biologist Crysta Dickson on March 4, 2010 and Maile Tanaka on June 8, 2010 to determine the presence/absence of those species listed in the City of Lake Forest OSA Program EIR, (OSA Appendix E), *Sensitive Species Occurring within the Project Area*, including chaparral sand-verbena (*Abronia villosa var. aurita*), south coast saltscale (*Atriplex pacifica*), thread-leaved brodiaea (*Brodiaea filifolia*), intermediate mariposa lily (*Calochortus weedii var. intermedius*), southern tarplant (*Centromadia parryi ssp. australis*), summer holly (*Comarostaphylis diversifolia ssp. diversifolia*), Santa Monica Mountain's dudleya (*Dudleya cymosa ssp. ovatifolia*), many-stemmed dudleya (*Dudleya multicaulis*), mesa horkelia (*Horkelia cuneata ssp. puberula*), Robinson's peppergrass (*Lepidium virginicum var. robinsonii*), Nuttall's scrub oak (*Quercus dumosa*), rayless ragwort (*Senecio aphanactis*), and salt spring checkerbloom (*Sidalcea neomexicana*) (PCR 2010). To ensure plants were surveyed for during the appropriate blooming period, the focus of the March sensitive plant survey was on chaparral sand-verbena, south coast saltscale, thread-leaved brodiaea, Santa Monica and salt spring checkerbloom, while the focus of the June sensitive plant survey was on intermediate mariposa lily, southern tarplant, summer holly, and many-stemmed dudleya. Surveys were conducted in accordance with survey guidelines published in the *Inventory of Rare and Endangered Vascular Plants of California*.[7]

[7] *California Native Plant Society (CNPS). 2001. Inventory of Rare and Endangered Plants of California (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, California. 388 pp.*

Meandering transects were walked across all accessible portions of the project site and biological resources, including vegetation and sensitive plants (if observed), were mapped on a 1" = 100' scale aerial photograph and recorded using Geographic Information Systems (GIS) technology.

No sensitive plant species were identified. A list of all plant species observed onsite was recorded and compiled (See Appendix B, Floral Compendium).

Plant Communities

Plant communities occurring within the project site include: coastal sage scrub, non-native grassland, non-native grassland/coastal sage scrub, non-native grassland/deerweed series, ornamental, disturbed, and developed. The locations of plant communities within the project site are shown in Figure 12, *Plant Communities Map*.

Coastal Sage Scrub

A small community of coastal sage scrub occurs within the northern portion of the project site. This community is dominated by California sagebrush (*Artemisia californica*). Associated species found within this community include wild cucumber (*Marah macrocarpus*), white sage (*Salvia apiana*), foxtail chess (*Bromus madritensis*), ripgut brome (*Bromus diandrus*), bur clover (*Medicago polymorpha*), black mustard (*Brassica nigra*), deerweed (*Lotus scoparius*), Californiabuckwheat (*Eriogonum fasciculatum*), white nightshade (*Solanum douglasii*), Mexican elderberry (Sambucus mexicana), and common fiddleneck (*Amsinckia menziesii*). Coastal sage scrub comprises 0.2 acre of the project site.

Non-Native Grassland

The majority of the project site was comprised of non-native grassland dominated by barley (*Hordeum sp*.). Associated species found within this community include bur clover, red-stemmed filaree (*Erodium cicutarium*), black mustard, common fiddleneck, London rocket (*Sisymbrium irio*), tree tobacco (*Nicotiana glauca*), foxtail chess, artichoke thistle (*Cynara cardunculus*), ripgut brome, horehound (*Marrubium vulgare*), telegraph weed (*Heterotheca grandiflora*), California sagebrush, tocalote (*Centaurea melitensis*), popcorn flower (*Plagiobothrys sp*.), deerweed, and wild cucumber. Non-native grassland comprises 9.8 acres of the project site.

Non-Native Grassland/Coastal Sage Scrub

Non-native grassland/coastal sage scrub occurs within the northern portion of the project site. This community is dominated by foxtail chess, ripgut brome, and California sagebrush. Associated species found within this community include wild cucumber, bur clover, purple nightshade (*Solanum xanti*), California buckwheat, tocalote, black mustard, horehound, stinging nettle (*Urtica dioica*), Mexican elderberry, London rocket, deerweed, prickly pear (*Opuntia littoralis*), redstemmed filaree, white sage, telegraph weed, common fiddleneck, and soap plant (*Chlorogalum pomeridianum*). Non-native grassland/coastal sage scrub comprises 1.1 acres of the project site.

Non-Native Grassland/Deerweed

Non-native grassland/deerweed occurs within the northern-central portion of the project site. This community is dominated by foxtail chess and deerweed. Associated species found within this community include horehound, mule fat (*Baccharis salicifolia*), laurel sumac (*Malosma laurina*), white nightshade, wild cucumber, red-stemmed filaree, black mustard, common fiddleneck, telegraph weed, white sage, California buckwheat, London rocket, and California sagebrush. Nonnative grassland/deerweed comprises 0.6 acre of the project site.

Ornamental

Ornamental landscaping from the neighboring residential community overlaps onto the southwestern border of the project site. Ornamental vegetation comprises 0.1 acre of the project site.

Disturbed

The disturbed area within the central portion of the project site consists of a dirt access road with sparse vegetation. The disturbed area comprises 0.1 acre of the project site.

Developed

Developed areas of the project site consist of portions of Regency Lane to the northeast and Osterman Road to the southeast. Developed areas comprise 0.7 acre of the project site.

Sensitive Species

The OSA PEIR states that two special-status species were observed on Site 5 (OSA Program EIR, Appendix K, *Coastal Sage Scrub and California Gnatcatcher Reports*), the federally threatened coastal California gnatcatcher and the Cactus wren (*Campylorhynchus brunnecapillus sandiegensis*), which is a species of special concern in the state of California. Both of these species are covered under the Central/Coastal Orange County NCCP.

No coastal California gnatcatchers (Polioptila californica californica) were observed during the sensitive plant survey. However, it should be noted that a formal focused survey for coastal California gnatcatchers was not conducted by PCR during the sensitive plant surveys. Coastal California gnatcatchers were observed during previous focused surveys for the OSA EIR within a fuel modification area that was previously included as a part of the project site. A map of the locations of coastal California gnatcatchers is shown in Figure 2 *Project Limits and Gnatcatcher Areas* of the California Gnatcatcher Survey Conducted May 11, 2005, at Whisler Property, Lake Forest, California letter report prepared by LSA.[8] The fuel modification area previously included in the 2005 coastal California gnatcatcher surveys is no longer a part of the 12.65-acre project site, as is shown in Figure 12 of this Initial Study.

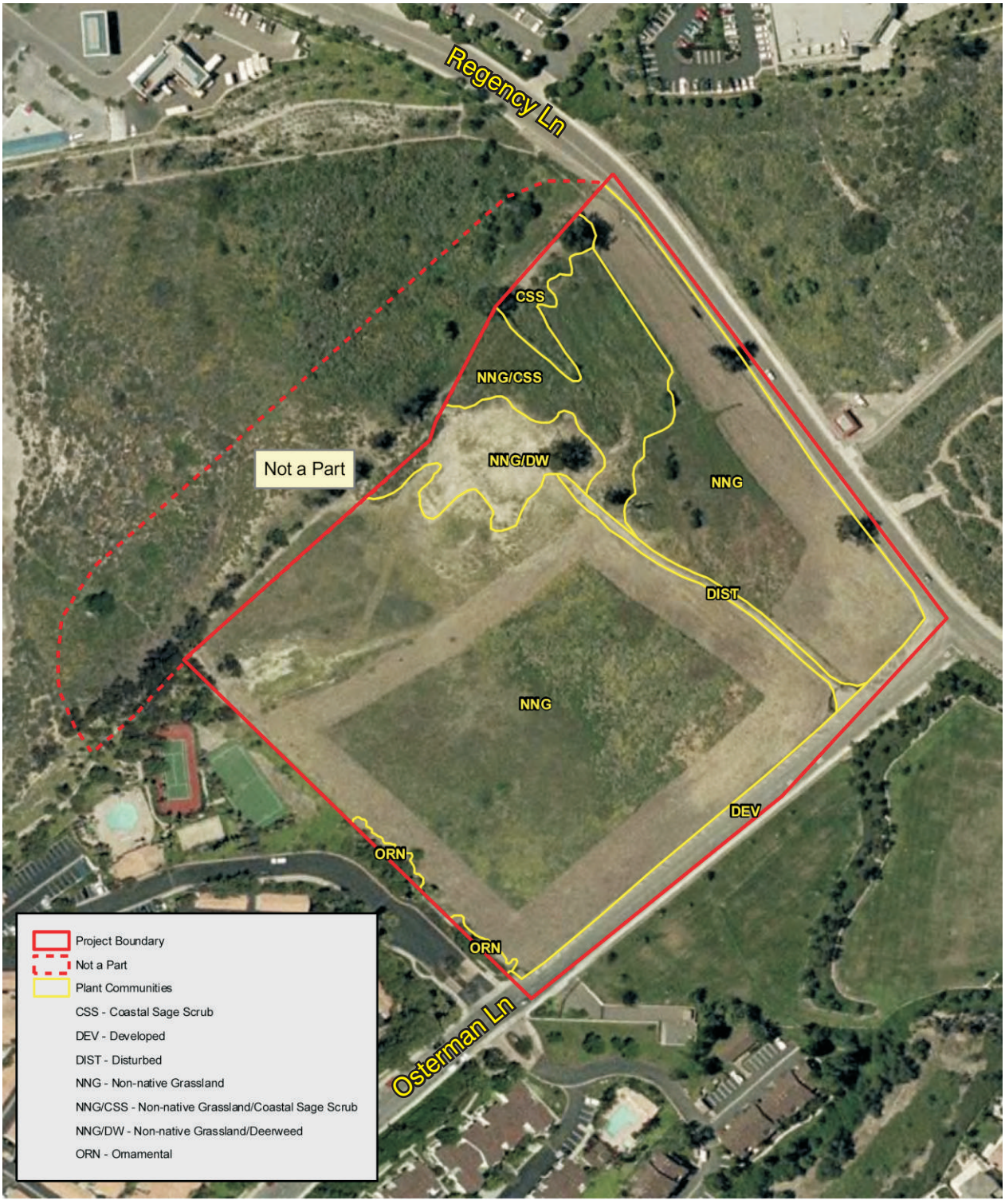
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The OSA Program EIR notes the Whisler Ranch site (Site 5) as supporting coastal cactus wren and Southern California rufus-crowned sparrow and coastal California gnatcatchers in the fuel modification zones. No coastal California gnatcatchers were observed during the sensitive plant survey. As discussed above and shown in Figure 12, those fuel modification zones are no longer a part of this project site.

Descriptions of the plant communities onsite discussed above and are included PCR Report (Appendix B, herein). All species will be removed during site grading and therefore impacted. One sensitive plant community, coastal sage scrub, was identified on-site. The project site is within the NCCP/HCP. Coastal sage scrub is considered a covered community with implementation of the NCCP/HCP. The proposed project will impact 0.2 acre of coastal sage scrub. A mitigation fee is required for impacts to coastal sage scrub under the NCCP/HCP. No other communities onsite are considered sensitive and the majority of the project site is comprised of disturbed communities.

[8] *California Gnatcatcher Survey Conducted May 11, 2005, at Whisler Property, Lake Forest, California*, LSA Associates, Inc. May 26, 2005.

Plant Communities Map



Source: PCR 2010

This page intentionally left blank.

Therefore impacts to these common, disturbed plant communities are considered less than significant. No sensitive plant species, including those not covered by the NCCP/HCP, were identified onsite during focused surveys for sensitive plants on March 4, 2010 and June 8, 2010.

As detailed in the OSA PEIR in the impact discussion for Site 5, payment of the NCCP mitigation fee and implementation of the construction avoidance measures would ensure compliance with approved conservation plans, preserve species' habitat, and avoid construction impacts for species that are known to occur on site. This would reduce potential impacts to sensitive species to less than significant levels . In addition OSA mitigation measures MM 3.4-1 through MM 3.4-3 require sensitive species surveys at appropriate times and locations to ensure an up to date and accurate assessment of the biological resources of the site. They also ensure consistency with the Conservation Guidelines for coastal sage scrub and compliance with the provisions of the NCCP/HCP of the NCCP/HCP for sensitive species. As a result, this impact would be considered less than significant at this site and the project does not require any changes to the OSA PEIR related to biological resources.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project. In cases where these OSA mitigation measures have been satisfied by studies prepared for this Initial Study/Addendum, it is so noted in *italics*,

It should be noted that the sensitive species surveys for the Whisler Ranch project satisfy mitigation measures BR MM-1 to BR MM-3 as described in the analysis above.

BR MM-1 (OSA Program EIR Mitigation Measure 3.4-1). Sensitive Species Surveys. Where future development projects have the potential to reduce or eliminate habitat for native plant and wildlife species or sensitive habitats, including but not limited to those listed in OSA PEIR Appendix E (Sensitive Species Potentially Occurring within the Project Area), the project applicant shall conduct biological field surveys of the Project Area to characterize the extent and quality of habitat that would be impacted by project development. Surveys shall be conducted in accordance with current CDFG or USFWS survey protocols for the target species by qualified biologists or botanists. If no sensitive species are observed and the regulatory agencies agree with those findings then no further mitigation will be required for the species. Similarly, if no sensitive habitats are observed and the regulatory agencies agree with those findings then no further mitigation will be required. If sensitive species or habitats are documented on a specific site, and the species or habitat is covered by the NCCP/HCP the applicant shall conform and comply with the applicable requirements of the NCCP/HCP and proceed with MM 3.4-2. If the species or habitat is not covered in the NCCP/HCP, then refer to MM 3.4-3. For impacts to wetlands and other aquatic habitats, refer to MM 3.4-4. (*It should be noted that the sensitive species surveys for the Whisler Ranch project satisfy this mitigation measure*).

BR MM-2 (OSA Program EIR Mitigation Measure 3.4-2). Loss of Coastal Sage Scrub Habitat and Plant and Animal Species Protected by the NCCP/HCP. Prior to recordation of a subdivision map or issuance of a grading permit, whichever comes first, the Applicant shall retain a qualified, permitted biologist to confirm the presence and quantity of coastal sage scrub habitat located on the project site. If coastal sage scrub habitat is found to be located on the project site, the Applicant shall submit proof to the Director of Development Services that in-lieu fees have been paid to the County of Orange Central/Coastal Natural Communities Conservation Plan (NCCP) Reserve.

The Applicant shall also demonstrate to the satisfaction of the Director of Development Service compliance with the following NCCP construction impact avoidance measures or such measure in effect at the time of construction:

1. To the maximum extent practicable, no grading of CSS habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures," are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFG with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of gnatcatchers, cactus wrens and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent as practicable in the context of the public health and safety considerations.

2. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP, shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities and the locations of any such species shall be clearly marked and identified on the construction/grading plans.

3. A monitoring biologist, acceptable to USFWS/CDFG will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFG at least seven (7) calendar days (and preferably fourteen (14) calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to assure that Identified bird species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.

4. Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking or storage of equipment or materials will be permitted within such marked areas.

5. In areas bordering the NCCP reserve system or Special Linkage/Special Management areas containing significant CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.

6. CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

BR MM-3 (OSA Program EIR Mitigation Measure 3.4-3).Loss of Species or Habitats Not Covered by the NCCP/HCP. To mitigate for potential impacts to species or habitats not covered by the NCCP/HCP the following process shall be followed. The applicant has two options: (1) the applicant can obtain suitable replacement habitat and dedicate that property to the conservation and protection of sensitive species in perpetuity, or (2) the applicant can satisfy the requirements of the FESA and CESA under the consultation and permitting provisions of these regulations. In both of these options, the applicant shall first consult with the appropriate resource agency (CDFG and/or USFWS) and establish a mitigation plan for the specific species or habitat. Appropriate mitigation shall be identified in a mitigation plan prepared by the applicant. In this mitigation plan the applicant shall demonstrate capacity for funding appropriate mitigation and the mitigation must be legally assured. Habitat acquisition and set asides shall occur in areas with long-term conservation potential. Any mitigation proposed shall be approved by the City and appropriate resource agency prior to implementation. (*It should be noted that the sensitive species surveys for the Whisler Ranch project satisfy this mitigation measure*).

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. As discussed in the OSA PEIR, the removal of 0.2 acres of coastal sage scrub habitat would be considered a potentially significant impact without adequate mitigation. Payment of the NCCP/HCP fee for loss of coastal sage scrub habitat and implementation OSA mitigation measures (listed as MM 3.4-1 and MM 3.4-2 (BR MM-1 and BR MM-2 above) and the NCCP/HCP construction avoidance measures would reduce potential impacts to this sensitive habitat to less than significant levels.

A mitigation fee is required for impacts to coastal sage scrub under the NCCP/HCP. No other communities onsite are considered sensitive and the project does not require any changes to the OSA PEIR related to biological resources.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As discussed in the OSA PEIR, this site does not contain or support any wetland resources. Therefore, development of the residential project would not impact wetland resources.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Minor Technical Changes or Additions. The project site is located adjacent to two parcels which are zoned as open space and an open space buffer to the north and west, and a park to the southeast. The OSA PEIR found that development of the Site 5 would be considered a barrier to movement between these two areas. However, the project site, park, and open space areas are surrounded by residential and commercial development. Although the project site may provide some habitat for limited wildlife movement and live-in habitat, particularly for reptile and avian species and small to medium mammals which are adapted to urban

settings, the project site does not function as a wildlife corridor on a regional scale. A wildlife corridor is defined as a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another, and typically link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. As shown in Figure 12, Regency Lane separates the project site from the open space to the north, and Osterman Road, separates the project site from Regency Park. Thus, impacts to regional wildlife movement are considered less than significant. Impact to local wildlife movement for species currently traversing the roadways may occur; however the greenbelt, fuel modification zone, and block wall along the project site's western boundary is a project design feature that would maintain connectivity between the open space parcels to the west and north. Therefore, these impacts would be considered adverse but less than significant and the project would not require any changes to the OSA PEIR related to biological resources.

Project Design Features

The following project design features (PDFs) are incorporated into the proposed project and will help to reduce and avoid potential impacts related to biological resources.

BR PDF-1 The project's western boundary, including the fuel modification zone, greenbelt, and block wall is designed to maintain wildlife connectivity between the open space to the north and west of the project site by avoiding barriers to wildlife movement, particularly at the project's northwest interface with Regency Lane.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. This mitigation measure applies to and will be implemented for the proposed Whisler Ranch residential project. In cases where OSA mitigation measures have been satisfied by studies prepared for this Initial Study/Addendum, it is so noted in italics,

BR MM-4 (OSA Program EIR Mitigation Measure MM 3.4-5) Mitigation for Fragmentation of Habitat and Wildlife Movement Corridors. In order to minimize the fragmentation of habitat and wildlife movement corridors the City shall require the applicant to include, to the extent feasible, specific design features to maintain connectivity between remaining open spaces. (*It should be noted that the BR PDF-1 satisfies this mitigation measure*).

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The project site supports eucalyptus trees. In accordance with the Lake Forest Eucalyptus Tree Conservation Ordinance (Municipal Code Section 6.20.035), eucalyptus trees of a height of eight feet or more, or a trunk diameter of two inches or more measured at least three feet above ground level are regulated by the City. No permits are required for any pruning, cutting, removal, or transportation of eucalyptus trees during the period from November 1 to March 31 each year. For removal of trees during April 1 to October 31, a permit is required.

Municipal Code Section 6.20.035 includes the following requirements: The application for the permit shall identify any health, safety, or emergency reasons for the cutting, pruning, removal or transportation of eucalyptus tree(s) during the restricted period.

The Director of Development Services may condition any permit granted pursuant to this section as the Director determines to be necessary including, but not limited to, any of the following:

- A condition requiring an objectively observable maintenance and care program to ensure the continued health and care of the eucalyptus tree(s) on the property and to ensure protection against any or further eucalyptus longhorn borer infestation;

- A condition requiring that subsequent to any cutting or removal of all or any part of the eucalyptus tree, the eucalyptus wood shall be chipped, burned, buried or tarped immediately; and any burning shall be consistent with South Coast Air Quality Management Board regulations;

- A condition that any stored eucalyptus wood be tightly covered with an ultra violet light resistant clear plastic tarp at least six (6) mil thick, with the ends of the tarp either weighted or covered with dirt to control tree scent dispersal and prevent the introduction or exiting of any eucalyptus longhorn borer for a minimum of six (6) months before any eucalyptus wood may be used or the tarp otherwise removed.

The project would comply with the City's Tree Conservation Ordinance and no adverse impact would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project will comply with applicable provisions of the NCCP/HCP. Payment of a mitigation fee is required for impacts to coastal sage scrub under the NCCP/HCP. After payment of the mitigation fee no substantial impact to the NCCP/HCP would occur and the proposed project does not require any changes to the OSA PEIR related to biological resources.

3.5 CULTURAL RESOURCES

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

No Impact. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally a resource is considered to be "historically significant," if it meets one of the following criteria:

i) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

ii) Is associated with the lives of persons important in our past;

iii) Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

iv) Has yielded, or may be likely to yield, information important in prehistory or history.

The site is vacant and does not currently contain any structures. As discussed in the OSA PEIR, there are no historical resources listed onsite in the California Register of Historic Resources (CRHR), the National

Register of Historic Places, or a local register. No records of historic resources on or within 0.5 mile of the site were identified in a records search by the South Central Coastal Information Center in 2005 (EIP Associates 2008). There was one former residence, consisting of two structures, onsite; however, this structure no longer exists. No impact to historic resources would occur and the proposed project does not require any changes to the OSA PEIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

No Impact. There were 83 archaeological sites (including 25 isolated artifacts) within 0.5 mile of the seven properties analyzed in the OSA PEIR. There were 12 archaeological sites on the seven properties; none of the isolated artifacts were on the properties (EIP Associates 2008). The specific locations of the archaeological sites were not published for protection of those sites. As with all development in areas that have known sensitive archaeological sites, there is potential for artifacts or burials to be uncovered during site grading. As with the OSA PEIR, project impacts to archaeological resources would be potentially significant. Implementation of the following OSA EIR mitigation measures would reduce such impacts to less than significant.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures (3.5-1 through 3.5-4) are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

CR MM- 1 (OSA Program EIR Mitigation Measure 3.5-1). Prior to issuance of a grading permit for any site within the Project Area, a qualified archaeologist shall be retained by the applicant for that grading permit to provide professional archaeological services. The archaeologist shall be present at the pre-grading conference to establish procedures for archaeological resource surveillance. Those procedures shall include provisions for temporarily halting or redirecting work to permit sampling, identification and evaluation of resources deemed by the archaeologist to potentially be historical resources or unique archaeological resources under CEQA. If, before grading, any portions of the property subject to the grading permit have been identified as sites, which may have such resources present and may be impacted by development, the archaeologist shall conduct a site survey and records search and such further examinations as may be needed to assess the significance of the resources. If the archaeological resource is determined to be a unique archaeological resource, options for avoidance of preservation in place shall be evaluated and implemented if feasible. In the event that avoidance or preservation in place is infeasible and the archaeologist determines that the potential for significant impacts to such resources exists, a data recovery program shall be expeditiously conducted. The archaeologist also shall conduct on-site archaeological monitoring for the grading operation. Should historical resources or unique archaeological resources be discovered during the grading operation, grading activities shall be modified to allow expeditious and proper analysis and/or salvage of the resources. Disposition of the resources shall be within the discretion of the City of Lake Forest.

CR MM-2 (OSA Program EIR Mitigation Measure 3.5-2).The qualified archaeologist shall prepare monthly progress reports to be filed with the site developer(s) and the City of Lake Forest.

CR MM-3 (OSA Program EIR Mitigation Measure 3.5-3). Artifacts recovered shall be prepared, identified, and cataloged before donation to the accredited repository designated by the City of Lake

Forest. State of California Guidelines for the Curation of Archaeological Collections shall be consulted regarding the treatment of recovered artifacts. Any artifacts determined to be insignificant shall be offered to local schools for use in educational programs.

CR MM-4 (OSA Program EIR Mitigation Measure 3.5-4). The qualified archaeologist shall prepare a final report to be filed with the site developer(s), the City of Lake Forest, and the South Central Coastal Information Center. The report shall include a list of specimens recovered, documentation of each locality, interpretation of artifacts recovered and shall include all specialists' reports as appendices. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

No Impact. The project site consists of the top and eastern and southern flanks of a small hill. Elevations onsite range from approximately 735 to 820 feet. The hill comprising the site is not a unique geological feature, as much of the terrain of southwestern California is hilly.

As described in the OSA PEIR, many of the rock and sediment formations beneath Orange County, particularly those originating during the Miocene Epoch (25 to 4 millions years ago) contain important fossils. Part of the site surface consists of Capistrano Formation sandstone of early Pliocene and Miocene age (USGS 2004; the Pliocene Epoch extends from approximately 4 million to 1.8 million years ago); sandstone of this Formation also underlies colluvium on other parts of the site. Remains of a whale and a rare dolphin have been found in portions of Baker Ranch. The City's General Plan identifies most of the City, including the project site, as sensitive for paleontological resources. Surveys throughout Orange County have also revealed crocodile, bony fish, and shark fossils. Significant paleontological resources, that is, fossils, could be buried in soil and rock onsite, and could be damaged by site grading and project construction. As with the OSA PEIR, impacts to paleontological resources would be potentially significant. Implementation of OSA PEIR mitigation measures CR MM-5 through CR MM-8 would reduce impacts to paleontological resources to less than significant. Therefore, the proposed project does not require any changes to the OSA PEIR.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures (3.5-5 through 3.5-8) are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

CR MM-5 (OSA Program EIR Mitigation Measure 3.5-5). Before issuance of a grading permit, a qualified paleontologist shall be retained by the site developer(s) to provide professional paleontological services. Specifically, during grading activities, the qualified paleontologist shall conduct on-site paleontological monitoring for the project site. Monitoring shall include inspection of exposed surfaces and microscopic examination of matrix to determine if fossils are present. The monitor shall have authority to divert grading away from exposed fossils temporarily in order to recover the fossil specimens. Cooperation and assistance from on-site personnel will greatly assist timely resumption of work in the area of the fossil discovery.

CR MM-6 (OSA Program EIR Mitigation Measure 3.5-6). The qualified paleontologist shall prepare monthly progress reports to be filed with the site developer(s) and the City of Lake Forest.

CR MM-7 (OSA Program EIR Mitigation Measure 3.5-7). Fossils recovered shall be prepared, identified, and cataloged before donation to an accredited repository designated by the City of Lake Forest.

CR MM-8 (OSA Program EIR Mitigation Measure 3.5-8). The qualified paleontologist shall prepare a final report to be filed with the site developer(s) and the City of Lake Forest. The report shall include a list of specimens recovered, documentation of each locality, interpretation of fossils recovered and shall include all specialists' reports as appendices.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. Considering that the records search for the OSA PEIR identified 12 archaeological sites within the seven properties analyzed, buried Native American human remains could be present in site soils. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall remain halted until the Coroner has conducted an investigation into the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. Compliance with existing law would reduce potential impacts to human remains to less than significant, and the proposed project does not require any changes to the OSA PEIR.

3.6 GEOLOGY AND SOILS

The information in this section is based in part on the *Preliminary Geotechnical Evaluation for 12.5-acre Site, APN 104-180-04, City of Lake Forest, County of Orange, California*, by GeoTek Inc., January 15, 2007, included as Appendix C of this Initial Study/Addendum.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. Surface rupture is the most easily avoided seismic hazard. Fault rupture generally occurs within 50 feet of an active fault line and is limited to the immediate area of the fault zone where the fault breaks along the surface (CGS 2006a). The primary purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent construction of buildings used for human occupancy on the surface of active faults. Unlike damage from ground shaking, which can occur at great distances from the fault, impacts from fault rupture are limited to the immediate area where the fault breaks along the surface. No known active faults traverse the project site. The main purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent construction of buildings used for human occupancy on the surface of active faults, in order to minimize the hazard of surface rupture of a fault to people and habitable buildings. There are no known faults within the project site and the site is not in an Alquist-Priolo Earthquake Fault Zone. The nearest known fault to the project site is an unnamed fault approximately 1.5 miles east of the site (CGS 2010). Development of the project would not put people or

structures at risk from surface rupture of a known fault, and the proposed project does not require any changes to the OSA PEIR.

ii) Strong seismic ground shaking?

No Impact. Project development would not expose people or structures to substantial hazards arising from ground shaking, after compliance with existing regulations.

Motion at the ground surface during an earthquake is measured as horizontal ground acceleration in g, where g is the acceleration of gravity. Accelerations of 0.41g and 0.55g correspond approximately to an intensity of VIII on the Modified Mercalli Intensity (MMI) Scale (Wald 1999). Ground shaking effects on buildings and people are measured by the Modified Mercalli Intensity (MMI) Scale, a qualitative scale. The MMI is a 12-point Intensity Scale ranging from I, which is rarely felt by people, to XII where damage to structures is total and objects are thrown into the air (USGS 2009). In an Intensity VIII earthquake damage is slight in specially designed structures; ordinary substantial buildings are damaged considerably and partially collapse; and damage is great in poorly built structures. Objects such as chimneys, factory stacks, columns, monuments, and walls fall, and heavy furniture is overturned (USGS 2009).

The project site could be subjected to moderate to strong ground shaking during the life of the proposed residences from several active faults in the region, including the Chino-Elsinore Fault that passes approximately 11.8 miles east of the site. The Chino – Elsinore Fault is considered capable of generating an earthquake of maximum magnitude 6.7 that would cause peak ground acceleration of 0.24g at the site. Ground acceleration of 0.24g corresponds approximately to an intensity of VII on the MMI scale (Wald 1999). In an intensity VII earthquake, damage is negligible in buildings of good design and construction and slight to moderate in well-built ordinary structures (USGS 2009). The project would be required to comply with 2007 California Building Code seismic safety regulations. Hazards from ground shaking would be reduced to less than significant. Therefore, the proposed project does not require any changes to the OSA PEIR.

iii) Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction refers to loose, saturated sand or silt deposits that lose their load-supporting capability when subjected to intense shaking. Three factors contribute to susceptibility to liquefaction: (1) strong seismic ground shaking; (2) poorly compacted sediments consisting of sand or silty sand, with a clay content of less than 15 percent; and (3) shallow groundwater, with groundwater shallower than 10 feet associated with the highest risk of liquefaction.

A geotechnical investigation was done, including subsurface borings, and testing of subsurface soil samples. Groundwater was not encountered during borings onsite to depths of up to 41.5 feet. Groundwater below the site and surroundings is expected to be well over 100 feet below ground surface. Geologic units at the site surface consist of:

- Artificial fill, up to 10 feet deep, at the site of the former residence in the western and northwestern parts of the site
- Colluvium, that is, soil that has slid off of neighboring bedrock; consisting of silty sand that is slightly moist to moist and medium dense to dense

- Sandstone: moderately hard, Tertiary-age[9] sandstone of the Capistrano Formation

The liquefaction potential on the site is considered low due to the relatively dense underlying materials and the lack of shallow groundwater. According to the State of California Special Publication 117A, hazards from liquefaction should be mitigated to the extent required to reduce seismic risk to "acceptable levels". The acceptable level of risk means, "that level that provides reasonable protection of the public safety" (California Code of Regulations Title 14, Section 3721(a)).

During project construction the grading operations would excavate, replace, and compact site soils to at least 90 percent. At project completion well compacted earth would underlie the project. The project applicant would complete and submit a final engineering geology report to the City of Lake Forest Building Department in compliance with the City Municipal Code. The project design and development would incorporate all recommended measures outlined in the final geologic report to ensure that safety is not compromised. Additionally all structures on the site are required to be constructed in accordance with the Uniform Building Code (with State of California modifications) and state seismic safety standards. The potential for liquefaction is therefore considered to be low and impacts would remain less than significant. Therefore, the proposed project does not require any changes to the OSA PEIR.

iv) Landslides?

No Impact. A small part of the site, along the western site boundary, is in a Zone of Required Investigation for earthquake-induced landslides (CDMG 2000). A geotechnical investigation was conducted, which did not find evidence of ancient landslides or slope instabilities. The geotechnical investigation report contains recommendations regarding slope stability on fill slopes and cut slopes. The project would comply with such recommendations, and project development would not cause substantial hazards arising from earthquake-induced landslides.

The design of foundation support must conform to the analysis and implementation criteria described in the City's Building Code, Chapters 16, 18, and A33. Adherence to the City's codes and policies would ensure the maximum practicable protection available for users of buildings and infrastructure and their associated trenches, slopes, and foundations. The City's monitoring and enforcing the requirements of the Building Code, would ensure that unstable soils or geologic units were stabilized or removed and replaced prior to their being used for foundation support. Because the requirements of the City's Building Code must be satisfied prior to project construction, the potential hazards posed by unstable soils or geologic units would be regulated and reduced to a less-than-significant level. Therefore, the proposed project does not require any changes to the OSA PEIR.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact. Project development would not cause substantial soil erosion. Erosion is the movement of soil and rock from place to place. Erosion occurs naturally by agents such as wind and flowing water; however, grading and construction activities can cause greatly increased erosion if effective erosion control measures are not used. Common means of soil erosion from construction sites include water, wind, and being tracked off-site by vehicles. Substantial erosion from the site could occur during project operation if effective erosion control measures were not used.

The State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ (General Construction Permit) contains water quality standards and storm water discharge requirements applying to construction

[9] The Tertiary Period extends from about 65.5 million years ago (mya) to approximately 1.8 mya.

projects of one acre or more in area. The General Construction Permit was issued pursuant to National Pollutant Discharge Elimination System (NPDES) regulations for implementing part of the federal Clean Water Act. The General Construction Permit requires preparation of a Stormwater Pollution Prevention Plan (SWPPP) that identifies the sources of pollution that may affect the quality of stormwater discharges and describes and ensures the implementation of Best Management Practices (BMPs) to reduce the pollutants, including silt and soil, in construction stormwater discharges. Within the City of Lake Forest, compliance with BMPs is administered by the Orange County Watersheds Program. The project applicant would submit a Notice of Intent to obtain coverage under the General Permit. Examples of BMPs that are commonly included in SWPPPs are shown below in Table 3.6-1.

A Water Quality Management Plan (WQMP) has been prepared for the project pursuant to Santa Ana Regional Water Quality Control Board Order No. R8-2009-0030 issued in 2009, regulating urban storm water runoff in Orange County; and San Diego Regional Water Quality Control Board Order No. R9-2009-0002, also issued in 2009. The WQMP specifies Best Management Practices (BMPs) to be used in project design and during project operation, including BMPs for control of runoff and that would minimize erosion. This WQMP is included as Appendix D.

The project applicant would comply with NPDES permit requirements. Impacts related to substantial soil erosion or the loss of topsoil would be less than significant. Therefore, the proposed project does not require any changes to the OSA PEIR.

Table 3.6-1
Construction Phase, Stormwater Pollution Prevention BMPs: Examples

Category	*Goal*	*Sample Measures*
Erosion Controls	Prevent soil particles from being detached from the ground surface and transported in runoff	Preserving existing vegetation; soil binders; geotextiles and mats
Sediment controls	Filter out soil particles that have entered runoff	Barriers such as slit fences and gravel bag berms; and street sweeping
Tracking Controls	Prevent soil from being tracked offsite by vehicles	Stabilized construction roadways and entrances/exits
Wind Erosion Control	Prevent soil from being transported offsite by wind	Similar to erosion controls above
Non-stormwater Management	Prevent discharges of soil from site by means other than runoff and wind	BMPs regulating various construction practices; water conservation
Waste and Materials Management	Prevent release of waste materials into storm discharges	BMPs regulating storage and handling of materials and wastes

Source: DMS Inc. 2010a

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact. The proposed project would not be located on unstable soils. Soil and rock types onsite are described above in Section 3.6.a.iii. The project would not result in significant hazards from liquefaction and earthquake-induced landslides (see Section 3.6.a.iii and Section 3.6.a.iv for detailed discussion).

Lateral Spreading

Lateral Spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer, due to both ground shaking and gravity. As the liquefaction hazard onsite is considered low, the hazard of lateral spreading onsite would also be low and would be a less than significant impact.

Subsidence

Subsidence depends mostly on the degree of compaction achieved during construction. Subsidence may occur onsite in colluvial areas as a result of compaction below the bottom of soil removals, or due to the weight of added fill soils. Removal and recompaction of all artificial fill material, highly weathered bedrock, and the upper 10 to 15 feet of colluvium is recommended by the geotechnical investigation report. The project would comply with such recommendations. Hazards related to ground subsidence would be less than significant.

Collapsible Soils

A collapsible soil shrinks considerably when wetted, when a load is placed atop the soil, or under both conditions; soil collapse is also referred to as hydro-collapse. Such shrinkage can damage structures built on the soil; or structures such as pipelines built within the soil. The hydro-collapse potential of samples of colluvial soil from the site was tested and found to be very low. In addition, the upper 10 to 15 feet of colluvial material would be removed and recompacted in compliance with geotechnical investigation report recommendations. Project-related hazards arising from collapsible soils would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact. Expansive soils shrink or swell as the moisture content decreases or increases; the shrinking or swelling can shift, crack, or break structures built on such soils. The expansion potential of onsite soils is considered to be very low, based on a test of subsurface soil from the site and the experience of the project geotechnical engineer with similar soils. No mitigation measures are recommended for reducing hazards from expansive soils, and no substantial risks to persons or structures would occur. Impacts would be less than significant. Therefore, the proposed project does not require any changes to the OSA PEIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project would not include septic tanks or other alternative wastewater disposal systems; the project would include sewers connecting to nearby sewer mains. No impact would occur and the proposed project does not require any changes to the OSA PEIR.

3.7 GREENHOUSE GAS EMISSIONS

This section analyzes the project's contribution to global climate change impacts in California through an analysis of project-related greenhouse gas (GHG) emissions. The primary GHG of concern is carbon dioxide (CO_2), which constitutes the majority (greater than 99 percent) of project-related emissions. Pursuant to Section 15064.4, *Determining the Significance of Impacts from Greenhouse Gas Emissions,* of the CEQA Guidelines a lead agency must consider the following when assessing the significance of impacts from greenhouse gas (GHG) GHG emissions on the environment:

- The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;

- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

- The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In accordance with the CEQA Guidelines, GHG emissions were calculated for construction and operation of the project. Information on manufacture of cement, steel, and other "life-cycle" emissions that would occur as a result of the project are not available and are not included in the analysis.[10] This analysis builds on the analysis in Chapter 7 of the OSA PEIR. A background discussion on the regulatory setting, methodology, and modeling can be found in Appendix A to this Initial Study/Addendum.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Impact. Implementation of the proposed project would contribute to long-term increases in GHGs as a result of traffic increases (mobile sources) and minor secondary fuel combustion emissions from space heating, etc. Development occurring as a result of the proposed project would also result in secondary operational increases in GHG emissions as a result of electricity generation to meet project-related increases in energy demand. Electricity generation in California is mainly from natural gas-fired power plants. However, since California imports about 20 to 25 percent of its total electricity (mainly from the northwestern and southwestern states), GHG emissions associated with electricity generation could also occur outside of California. Space or water heating, water delivery, wastewater processing and solid waste disposal also generate GHG emissions. Short-term GHG emissions will also derive from construction activities.

The General Reporting Protocol (GRP) in the California Climate Action Registry (CCAR) divides project-related operational GHG emissions into three categories. These three sources include the following:

Source 1: On-site combustion of fossil fuels (space and water heating, fireplaces, landscape utility equipment, etc.)

Source 2: Consumption of purchased energy (electricity)

Source 3: Indirect emissions (transportation, solid waste disposal, fresh-and wastewater conveyance and treatment)

For general residential development projects such as the proposed project, Source 3 is typically a much larger contributor to the GHG burden than Sources 1 and 2. For convenience, project related GHG emissions were aggregated into transportation and non-transportation sources. The transportation component is calculated and reported in the URBEMIS2007 computer model. The non-transportation sources require additional analysis, as shown below.

[10] Lifecycle emissions are the GHG emissions from raw material production, manufacture, distribution, use, and disposal and include all intervening transportation emissions caused by the product's existence. Because the amount of materials consumed during the operation or construction over the lifetime of the project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of lifecycle emissions would be speculative.

Construction Activity GHG Emissions

During project construction, the URBEMIS2007 computer model predicts that the following activities will generate the following annual CO_2 emissions during the construction timeframe:

- 2010 Grading 238 metric tons[11]
- 2011 Construction, Paint and Pave 304 metric tons[11]

Equipment exhaust also contains small amounts of methane and nitric oxides which are also GHGs. Non-CO_2 GHG emissions represent approximately a three percent increase in CO_2-equivalent emissions from diesel equipment exhaust. The proposed project would generate the most amount of GHG from construction activities in year 2011 at 304 MTons and would be well below this threshold. Therefore, the project's contribution to GHG emissions is consistent with the analysis of that impact in the OSA PEIR. Therefore, the proposed project does not require any changes to the OSA PEIR.

Project Operational GHG Emissions

The input assumptions for operational GHG emissions calculations, and the GHG conversion from consumption to annual regional CO_{2e} emissions are summarized in Table 3.7-1. Annual GHG emissions, from non-transportation sources associated with residential development are shown in Table 3.7-2. For the proposed project, the transportation component will comprise approximately 72 percent of the project-related GHG emissions. Reductions in the vehicular contribution are therefore critical in achieving the goals of statewide/national GHG minimization programs. However, substantial mobile source trip/vehicle miles traveled (VMT) reduction or increases in vehicular fuel efficiency are not achievable or are difficult to quantify on a project-specific basis. Most GHG reduction must therefore focus on energy conservation via reduced water usage, waste reduction and compliance with Title 24 of the California Code of Regulations.

Table 3.7-1
Annual Non-Transportation Consumption/Generation

Land Use	Unit	Electricity (MWHR)	Nat. Gas (106 cu ft)	Solid Waste (tons)	Water (106 gal)
Residential	DU	5.6	0.0481	0.73	0.073

Table 3.7-2
Project-Related GHG Emissions

Use	Unit	Electricity (MWHR)[1]	Nat. Gas (106 cu ft)[2]	Solid Waste (tons)[3]	Water (MG)[4]
Residential	68 DU	380	3.1	49.6	5.0
CO_{2e} Conversion Factor (Mtons/unit)	*n/a*	*0.331*	*54.6*	*0.42*	*4.20*
CO_{2e} Mtons/yr	n/a	125.8	169.3	20.8	21.0

1 ton = 0.9071847 metric ton

Notes:

[1] MWHR x 0.331 Mtons/MWHR.[12]

[2] 10^6 cubic feet x 54.6 Mtons/10^6 cubic feet.[12]

[3] tons x 0.42 Mtons/ton.[13]

[4] 10^6 gal(MG) x 4.20 Mtons/MG.[14]

[11] Output provided in Appendix A.

[12] California Climate Action Registry.

[13] Energy Information Admin., Voluntary Reporting of GHG.

[14] California Energy Commission, Integrated Energy Policy Report (12.7 MWHR per MG conveyed, treated and

Therefore, the project's contribution to GHG emissions is consistent with the analysis of the impact in the OSA PEIR and no additional mitigation measures are necessary. Therefore, the proposed project does not require any changes to the OSA PEIR.

Table 3.7-3
Project-Generated GHG Emissions – Operational Phase

Source	GHG Emissions	
	MTons/Year	Percent of Total
Non-Transportation		
Electricity	*125.8*	*8.9%*
Natural Gas	*169.3*	*12.0%*
Solid Waste	*20.8*	*1.5%*
Water	*21.0*	*1.5%*
Total Non-Transportation	336.9	23.8%
Transportation[1]	1,078	76.2%
Total all Sectors	1,414.9	100%

Source: URBEMIS2007, Version 9.2.4
[1] Residential = 365 days/yr

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The California Air Resources Board (CARB) adopted the Scoping Plan on December 11, 2008. The Scoping Plan is California's GHG reduction strategy to achieve the state's GHG emissions reduction target established by Assembly Bill (AB) 32, which is 1990 levels by year 2020. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS), California Appliance Energy Efficiency regulations, California Renewable Energy Portfolio standard, changes in the corporate average fuel economy (CAFE) standards, and other early action measures would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32.

In addition to the statewide GHG reduction measures, the OSA Program EIR identified project design features (PDFs) and mitigation measures that would reduce the cumulatively considerable GHG emissions for the Opportunities Study project. With approval of the final OSA EIR, the following applicable project design features (PDFs) and mitigation measures are incorporated as part of the Whisler Ranch project.

Applicable OSA Program EIR Project Design Features (PDF)

The following project design features (PDFs) are incorporated into the proposed project and will help to reduce and avoid potential impacts related to GCC.

GCC PDF-1 (OSA Program EIR Project Design Feature GCCPDF2). Residential development shall be constructed with the following features, or their equivalent, to reduce energy consumption so long as they pose no conflict with applicable Building Code requirements: installation of a majority of Energy Star appliances; installation of high efficiency HVAC equipment with SEER rating of 13 or higher and thermostatic expansion valve (TXV) valve; installation of vinyl frame windows with dual-pane low emissivity glass; installation of natural gas clean

disposed in Southern California).

burning fireplaces; installation of water efficient plumbing fixtures to reduce water consumption; and provision of an option to the homeowner to include electric vehicle charging facilities in the residence garage.

GCC PDF-2 (OSA Program EIR Project Design Feature GCCPDF3). Walking paths shall be incorporated into the street system of new residential development to provide alternative circulation routes to reach logical points of destinations such as schools, parks and retail areas

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

GCC MM-1 (OSA Program EIR Mitigation Measure GCC2).Prior to the issuance of building permits for the Whisler Ranch project, the City shall review the plans to confirm that the project complies with the requirements of Title 24 of the California Code of Regulations.

GCC MM-2 (OSA Program EIR Mitigation Measure GCC4).The City shall identify energy efficient street lights and water and wastewater pumps and treatment systems which are currently available and which when installed will provide for a 10 percent reduction beyond the 2007 baseline energy use for this infrastructure, and shall require the use of this technology in all new development. All new traffic lights installed within the City shall use LED technology.

GCC MM-3 (OSA Program EIR Mitigation Measure GCC5).The City shall require the Whisler Ranch project to recycle and/or salvage at least 25 percent of nonhazardous construction and demolition debris. To implement this requirement, the applicant shall submit a construction waste management plan for review and approval of the Development Services Director prior to issuance of a Building Permit. The construction waste management plan shall identify materials to be diverted from disposal and whether the materials will be stored on-site or commingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculation can be done by weight or volume but must be documented.

GCC MM-4 (OSA Program EIR Mitigation Measure GCC6). Prior to approval of a development permit for the Whisler Ranch project, the City shall require that the project use reclaimed water for public and common area landscaping where available; install 50 percent native/drought-tolerant plant species in developer-installed landscaped areas; and utilize “smart” advanced capability controllers (e.g., Weather-Trac) to reduce water and energy consumption.

The project’s GHG emissions would be further reduced from compliance with these statewide measures and from implementation of the measures above. Therefore, the proposed project would not have the potential to interfere with the State of California's ability to achieve GHG reduction goals and strategies.

3.8 HAZARDS AND HAZARDOUS MATERIALS

The information in this Section is based in part on the following reports, included as Appendix E1 and E2 of this Initial Study/Addendum:

- *Phase I Environmental Site Assessment, APN 104-180-04, West of Osterman Road and Regency Lane, Lake Forest, California*. GeoTek Inc., July 6, 2009.
- *Limited Phase II Environmental Site Assessment, APN 104-180-04, Lot 5 of Tract No. 950, West of Osterman Road and Regency Lane, City of Lake Forest, Orange County, California*. GeoTek Inc., August 21, 2009.

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

No Impact. The proposed project consists of the construction of a residential development. Project construction would involve use of small quantities of hazardous materials such as fuels, greases, paints, and cleaning materials. The use, storage, transport, and disposal of hazardous materials by the project would be required to comply with existing regulations of several agencies, including the Department of Toxic Substances Control (DTSC), the US Environmental Protection Agency (USEPA), the Occupational Safety & Health Administration (OSHA), Orange County Fire Authority (OCFA), and the Orange County Environmental Health Division (EHD).[15] Compliance with applicable laws and regulations governing the use, storage, transportation, and disposal of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner, and would minimize potential hazards. Long-term operations of the proposed project would not involve routine transport, storage, use, and disposal of substantial amounts of hazardous materials. Hazardous materials used during project operation would be materials such as cleansers, paints, and pesticides used for cleaning and maintenance purposes, and would be used in small amounts. The use of these materials would be in small quantities and in accordance with the manufacturer's instructions for use, storage, and disposal of such products. Therefore, impacts arising from the routine handling of hazardous materials would be less than significant. Therefore, the proposed project does not require any changes to the OSA PEIR.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No Impact. As discussed in the OSA PEIR, the project site was formerly an agricultural use. Aerial photographs from 1938 through 1968 show a citrus grove on almost the whole site; a 1977 photograph shows row crops in the northern and western part of the site, but not the citrus grove. Photographs from 1990 through 2005 show one residence in the northwestern parts of the site; residence consisted of two structures, both of which have been demolished, but the slab foundations remain. A search of hazardous materials site databases did not find any listings of the project site. One possible environmental concern for the site was identified: hazardous pesticides and herbicides may have been used during past agricultural use. In August 2009 two soil samples were collected from parts of the site formerly used for agriculture, one from the west-central part of the site and one from the east-central. The samples were tested for organochlorine pesticides and chlorinated herbicides. No pesticides or herbicides were detected; thus, levels of pesticides and herbicides onsite are below levels requiring mediation as designated by the California Environmental Protection Agency. The Phase I and Phase II environmental site assessments

[15] The Environmental Health Division is the Certified Unified Program Agency (CUPA) for Orange County; the Certified Unified Program coordinates and makes consistent enforcement of several federal and state regulations governing hazardous materials.

conducted for the project did not identify any existing hazardous materials onsite that could pose substantial hazards to the public or the environment through accidental release.

Trash and debris, including concrete, metal and PVC pipes, tires, wood products, bags, and plastic bottles were observed onsite during the course of the Phase I Environmental Site Assessment. These materials would be removed from the site during site clearing. A former sewage disposal pit was observed near one of the two former residences onsite. None of these items are considered to be environmental concerns for the project site.[16]

It is very unlikely that the two former structures onsite contained asbestos-containing materials or lead-based paint, given the ages of the former structures (seen in photographs from 1980 through 2005). The use of asbestos in building products made in the US was phased out in the 1970s and 1980s. Lead as an ingredient in paint was banned in 1978.

The use of hazardous materials by the project, and regulations governing such use, is described above in Section 3.8.a. No hazardous materials would be utilized other than typical household and vehicle maintenance materials (i.e., cleaning supplies, paints, fertilizers, oil, grease).The use of hazardous materials by the project would not result in substantial hazards to people or to the environment arising from accidental release of hazardous materials. Impacts would be less than significant and no new mitigation is needed. Therefore, the proposed project does not require any changes to the OSA PEIR.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project. In cases where these OSA mitigation measures have been satisfied by studies prepared for this Initial Study/Addendum, it is so noted in *italics*,

HM MM-1 (OSA Program EIR Mitigation Measure 3.7-1) Prior to the issuance of grading permits, the site developer(s) shall perform a tiered review under CEQA for the site to be graded to assess the potential for significant impacts related to hazardous materials be responsible for performing all hazardous material studies in connection with site development of parcels 1, 4, 5, and 7, and submit a report to the City that shall be reviewed and approved by the Director of Public Works/City Engineer. The report shall include the following:

- Investigate the project site to determine whether it or immediately adjacent areas have a record of hazardous material contamination via the preparation of a preliminary environmental site assessment (ESA), which shall be submitted to the City for review. If contamination is found the report shall, characterize the site according to the nature and extent of soil contamination that is present before development activities proceed at that site.

- If contamination is determined to be on site, the project developer(s), in accordance with appropriate regulatory agencies, shall determine the need for further investigation and/or remediation of the soils conditions on the contaminated site. If further investigation or remediation is required, it shall be the responsibility of the site

[16] A recognized environmental condition (REC) is an existing or past release, or a material threat of a release, of hazardous substances or petroleum products into the ground, groundwater, or surface water, even under conditions in compliance with laws.

developer(s) to complete such investigation and/or remediation prior to construction of the project.

- If remediation is required, it shall be accomplished in a manner that reduces risk to below applicable standards and shall be completed prior to issuance of any occupancy permits. *(Please note that the analysis in the Whisler Ranch Initial Study/ Addendum and supporting technical studies (Phase I and Limited Phase II referenced therein) satisfy HM MM-1).*

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no existing schools within 0.25 mile of the project site (Google Earth 2010). Project construction would result in emissions from diesel-powered vehicles and construction equipment, and emissions from use of construction materials such as paints. However, these emissions are not hazardous and would be short-term. Impacts would be less than significant, and no mitigation is needed.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Government Code Section 65962.5 specifies lists of the following types of hazardous materials sites: hazardous waste facilities; hazardous waste discharges for which the State Water Quality Control Board has issued certain types of orders; public drinking water wells containing detectable levels of organic contaminants; underground storage tanks with reported unauthorized releases; and solid waste disposal facilities from which hazardous waste has migrated. A search of hazardous materials sites databases did not yield any listings for the project site or for properties next to the site.

The hazardous materials sites database search identified two facilities within roughly 0.3 mile of the site: one Small Quantity Generator of hazardous wastes approximately 0.25 mile northwest of the site, and one leaking underground storage tank (LUST) case approximately 0.3 mile north of the site. The release of gasoline at the LUST site affected soil only, and the case was closed in 1998. Neither of the offsite hazardous materials listings are considered concerns for the project site. No risk related to listed hazardous materials sites would occur and no mitigation is needed.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles or a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no public-use airports within two miles of the project site (Airnav.com 2010), and the site is not in an airport land use plan. The project site was formerly under or near a flight path to or from MCAS El Toro; that facility closed in 1999, and the County of Orange Airport Land Use Commission extinguished the Airport Environs Land Use Plan (AELUP) for MCAS El Toro in 2005. The nearest public-use airport to the site is John Wayne Airport, roughly 12 miles west of the site. No impacts would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The nearest heliport to the project site is at Oakley Inc. at 1 Icon in the City of Lake Forest, approximately 1.1 mile northeast of the project site. Except during takeoff and landing, helicopters over

congested areas are required to maintain a minimum altitude of 1,000 feet above the highest obstacle (Code of Federal Regulations, Title 14, Section 91.119). Project development would not cause a hazard involving helicopters, and no impacts would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The project site is an undeveloped hillside. It is not part of an adopted emergency response plan or emergency evacuation plan. The project construction and operation would not close roadways. Staging of construction materials and equipment would be required to be done onsite and off of roadways. The California Fire Code (CFC) (Title 24, California Code of Regulations, Part 9, Section 503) contains regulations regarding access roads for fire apparatus. The project would include five private streets, as shown in Figure 4, *Site Plan*, and would comply with requirements for fire access. The CFC requires that the fire code official in a jurisdiction determine adequate turning radii for fire access roadways. The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services to the City of Lake Forest. The design of the proposed private roads would comply with OCFA requirements for access roads and turning radii. With incorporation of Mitigation Measures HM MM-2 and HM MM-3, project impacts on emergency evacuation would remain less than significant.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

HM MM-2 (OSA Program EIR Mitigation Measure 3.7-3). Lane Closures - At least three business days prior to any lane closure, the construction contractor shall notify the OCSD and OCFA, of construction activities that would impede movement (such as road or lane closures) along roadways immediately adjacent to the Project Area, and obtain an encroachment permit from the Public Works Department, to allow for uninterrupted emergency access and maintenance of evacuation routes.

HM MM-3 (OSA Program EIR Mitigation Measure 3.7-4). Prior to issuance of building permits for any development within the Project Area, the City shall modify, to the extent necessary, the City's emergency response protocol and available emergency response resources, as outlined in the Emergency Preparedness Plan, to accommodate development. Such modifications shall ensure that the existing level of emergency service is maintained.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Minor Technical Changes or Additions. The project site is surrounded by natural open space to the west, and open space to the northeast opposite Regency Lane. There are approximately 5.5 acres of open space immediately adjacent to the north of the property. This open space, and all other surrounding uses are depicted in Figure 13, *Offsite Open Space Condition*. Regency Park is to the southeast, opposite Osterman Road. The project site is in an area that is away from any significant wildland interface area. The open space areas next to the site are surrounded by urban development and are not contiguous with any large areas of natural open space such as the Santa Ana Mountains.

Pursuant to fuel modification Guideline C-05, OCFA requires a 170-foot wide fuel modification zone. The applicant submitted a request, which was granted by the OCFA on September 22, 2009, to use Alternative Materials and Methods to satisfy the fuel modification requirement, n accordance with Section 104.9 of the 2007 California Fire Code. Based on the prevailing wind direction, the ignition potential, and the characteristics and size of the offsite open space (undeveloped land next to the northwest and northeast site boundaries), the proposed project's design would adequately protect the residential development from wildland fire. The project would include a fire fuel modification setback along the northwest site boundary in compliance with PRC Section 4291. The purpose of the setback is to provide a defensible space where combustible vegetation has been removed and/or modified for fire suppression forces and to protect structures from radiant and convective heat. The setback zones and types of plants to be planted in the setback have been coordinated with OCFA. A preliminary fuel modification plan has been approved and is included as Appendix F of this Initial Study/Addendum (see Figure 14, *Conceptual Fuel Modification Plan*).

The proposed project would include a total of 110 feet of fuel modification, a greenbelt and a six-foot high block wall, shown in Figure 13. Part of the required setback area would be developed into a linear area serving as a community amenity. There are two zones within the 110 feet of fuel modification, as follows:

- Zone A - Irrigated Structure Setback Zone: The purpose of this 20-foot minimum width setback zone is to provide a defensible space for fire suppression forces and to protect structures from radiant and convective heat. The entire zone is to be located on a level, graded area at the top or the base of a slope, but it may incorporate trails, roadways, and other level noncombustible areas that create defensible space for fire crews between protected structure and the fire. The specific requirements for planting materials and maintenance within this fuel zone is included in Appendix F

- Zone B – Irrigated Zone: This portion of the fuel modification consists of irrigated landscaping. These irrigated zones would be a minimum of 50 feet in width and may be increased as conditions warrant. Zone B shall be cleared of all undesirable plant species, irrigated and planted with species from OCFA Attachment 8. Exceptions to save desirable species may be submitted for approval by the OCFA on a site-specific basis. The specific requirements for planting materials and maintenance within this fuel zone is included in Appendix F.

Chapter 7A of the 2007 California Building Code (CBC), Materials and Methods for Exterior Wildfire Exposure, which prescribes building materials and construction methods for new buildings in a Very High Fire Hazard Severity Zone. Chapter 7A contains requirements for roofing; attic ventilation; exterior walls; exterior windows and glazing; exterior doors; decking; protection of underfloor, appendages, and floor projections; and ancillary structures. Chapter 47 of the 2007 CFC, Requirements for Wildland-Urban Interface Fire Areas, contains requirements for roofing and attic ventilation that are similar to the requirements in Chapter 7A. While the project is not located in a Very High Fire Hazard Severity zone, OCFA has included special requirements as part of the approval of the Alternative Methods and Materials plan. All homes on the edge of the fuel modification zone, as well as along Regency Lane will be required to incorporate the requirements of Chapter 7A, while all other homes within the proposed project will be subject to select requirements as listed below in HM PDF-2.

Based on the approved Alternative Methods and Materials plan and fuel modification plan, impacts related to significant risk of loss, injury or death involving wildland fires would be less than significant and no revisions to the OSA PIER are necessary.

Project Design Features

The following project design features (PDFs)) are incorporated into the proposed project and will help to reduce and avoid potential impacts related to significant risk of loss, injury or death involving wildland fires.

HM PDF-1 In accordance with OCFA Alternative Materials and Methods Request, approved September 22, 2009, all edge homes along the northern (along Regency Lane) and western (adjacent to the fuel modification zone) boundaries shall meet all of the requirements of California Building Code Chapter 7A.

HM PDF-2 With the exception of edge homes, which must meet all California Building Code Chapter 7A requirements, the balance of the home construction within the development shall meet the following code sections of Chapter 7A:

- 704A.1 – 704A.1.5 Roofing
- 704A.2 – 704A.2.2 Attic Ventilation (All screening shall be 1/8 inch mesh)
- 704A.3.2.1 Exterior Wall Vents (All screening shall be 1/8 inch mesh)
- 704A.4.2- 704A.4.2.2 Underfloor, Appendages, and Unenclosed Underfloor Protection

HM PDF-3 A six-foot high block wall will be constructed along the site's western edge to assist in deflecting the direction of heat embers.

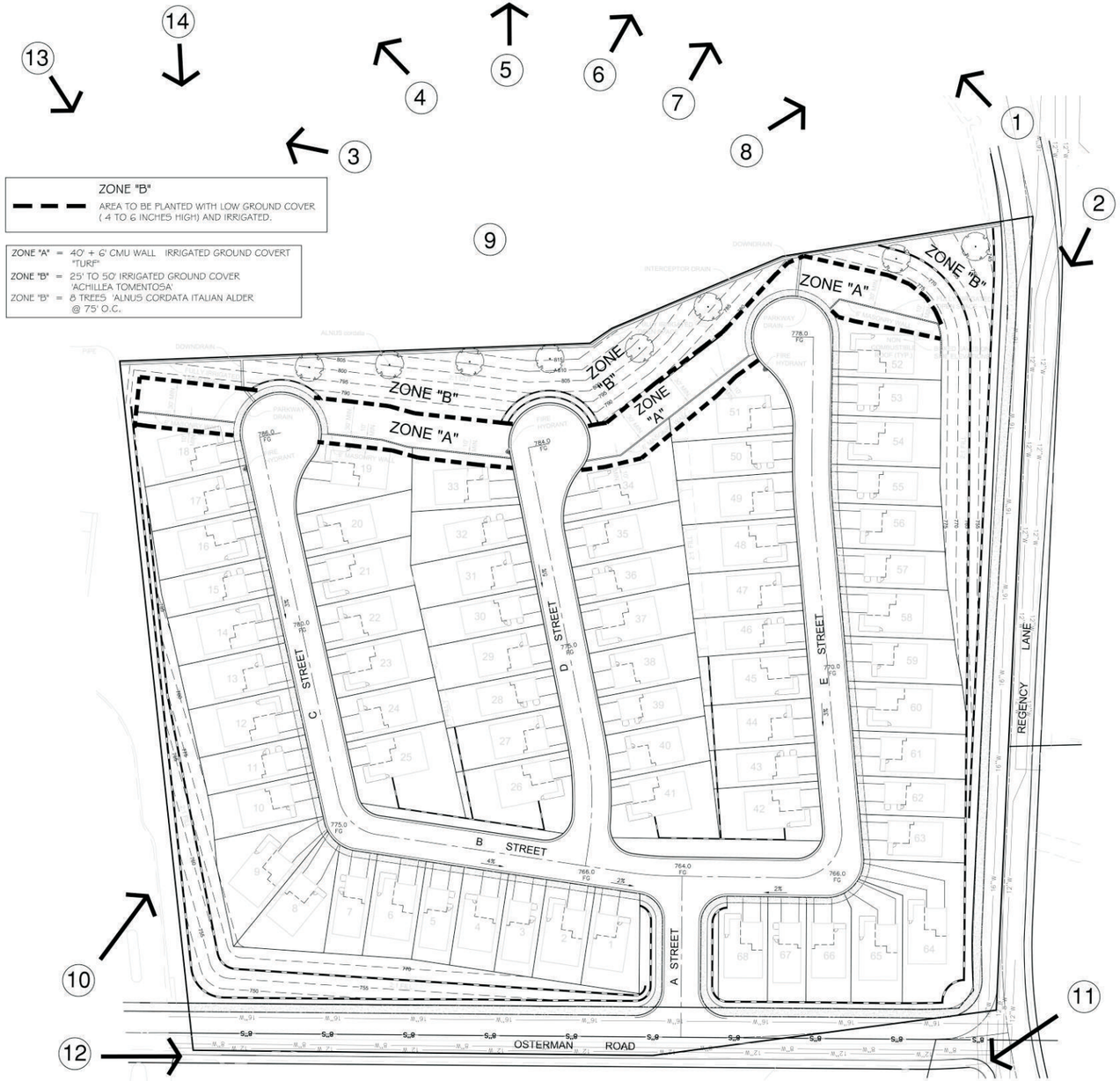
HM PDF-4 The Whisler Ranch residential project will incorporate the fuel modification zones and comply with all requirements of the OCFA Alternative Materials and Methods Request, approval, dated September 22, 2009 and included as Appendix F of the Whisler Ranch Initial Study/Addendum.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measures are taken directly from the OSA PEIR with no changes made. They have been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

HM MM-4 (OSA Program EIR Mitigation Measure 3.7-5). The City will reduce the potential for dangerous fires by implementing fire hazard education, fire protection, and fuel modification programs in coordination with the Orange County Fire Authority (OCFA). In addition, all development located within portions of the Project Area that are designated as a VHFSHZ/SFPA by OCFA shall comply with OCFAVHFSHZ/SFPA guidelines. Site developer(s) shall be responsible for providing evidence to the City and the OCFA prior to the issuance of grading permits that water pressure is adequate for fire-fighting purposes.

Offsite Open Space Condition



Feet
0 125

Source: R. T. Quinn & Associates 2009

This page intentionally left blank.

Conceptual Fuel Modification Plan

ZONE A - IRRIGATED STRUCTURE SETBACK ZONE

THE PURPOSE OF THE SETBACK ZONE IS TO PROVIDE A DEFENSIBLE SPACE FOR FIRE SUPPRESSION FORCES AND TO PROTECT STRUCTURES FROM RADIANT AND CONVECTIVE HEAT. IN NO CASE SHALL ZONE A BE LESS THAN A 20-FOOT MINIMUM WIDTH. THE ENTIRE ZONE IS TO BE LOCATED ON A LEVEL, GRADED AREA AT THE TOP OR BASE OF SLOPE. ZONE A MAY INCORPORATE TRAILS, ROADWAYS, AND OTHER LEVEL, NONCOMBUSTIBLE AREAS THAT CREATE DEFENSIBLE SPACE FOR FIRE CREWS BETWEEN THE PROTECTED STRUCTURE AND THE FIRE.

ZONE A - SPECIFIC REQUIREMENT

A. AUTOMATIC IRRIGATION SYSTEMS TO MAINTAIN HEALTHY VEGETATION WITH HIGH MOISTURE CONTENT AND BE REGULARLY IRRIGATED

B. PRUNING OF FOLIAGE TO REDUCE FUEL LOAD, VERTICAL CONTINUITY, AND REMOVAL OF PLANT LITTER AND DEAD WOOD IN ACCORDANCE WITH ATTACHMENT 6.

C. COMPLETE REMOVAL OF UNDESIRABLE PLANT SPECIES (SEE ATTACHMENT 7). THERE IS ALSO MINIMAL ALLOWANCE FOR RETENTION OF SELECTED NATIVE VEGETATION.

D. PLANTS IN THIS ZONE SHALL BE HIGHLY FIRE RESISTANT.

E. TREE SPECIES ARE NOT ALLOWED WITHIN 10 FEET OF COMBUSTIBLE STRUCTURES (MEASURED FROM THE EDGE OF A FULL GROWTH CROWN).

F. MAINTENANCE INCLUDES THINNING AND REMOVAL OF OVER-GROWTH, REPLACEMENT OF DEADIDYING FIRE RESISTANT PLANTINGS, AND MAINTENANCE OF THE OPERATION OF THE IRRIGATION SYSTEM.

G. DEVICES THAT BURN SOLID FUELS ARE NOT PERMITTED IN ANY FUEL MODIFICATIONS ZONE.

H. NO COMBUSTIBLE CONSTRUCTION SHALL BE ALLOWED WITHIN ZONE A.

ZONE B - IRRIGATED ZONE

THIS PORTION OF FUEL MODIFICATION CONSISTS OF IRRIGATED LANDSCAPING. THESE IRRIGATED ZONES ARE A MINIMUM OF 50 FEET IN WIDTH AND MAY BE INCREASED AS CONDITIONS WARRANT.
ZONE B SHALL BE CLEARED OF ALL UNDESIRABLE PLANT SPECIES, IRRIGATED, AND PLANTED WITH SPECIES FROM OCFA ATTACHMENT 8. EXCEPTIONS TO SAVE DESIRABLE SPECIES MAY BE SUBMITTED FOR APPROVAL BY THE OCFA ON A SITE-SPECIFIC BASIS.

ZONE B - SPECIFIC REQUIREMENTS

A. GROUNDCOVER SHALL BE MAINTAINED AT A HEIGHT NOT TO EXCEED 18 INCHES.

B. IN ORDER TO MAINTAIN PROPER COVERAGE, NATIVE GRASSES SHALL BE ALLOWED TO GO TO SEED. NATIVE GRASSES SHALL BE CUT AFTER ANNUAL SEEDING. CUT HEIGHTS SHALL NOT EXCEED 6 INCHES.

C. IRRIGATION SHALL BE DESIGNED TO SUPPLEMENT NATIVE VEGETATION AND ESTABLISH AND MAINTAIN PLANTED NATIVES AND ORNAMENTALS.

D. ALL PLANT SPECIES DESIGNED FOR ZONE B SHALL BE SELECTED FROM OCFA ATTACHMENT 8. EXISTING FUEL MODIFICATION MAINTENANCE PROGRAMS ARE LIMITED TO THE PLANTS LISTED ON THE APPROVED PLANS UNLESS A REVISION IS REQUESTED. PLANTING AND MAINTENANCE SHALL BE IN ACCORDANCE WITH PLANTING RESTRICTIONS FROM ATTACHMENTS 7 AND 8.

E. GROUPS OF TREES AND TREE-FORM SHRUBS SHALL BE VERTICALLY PRUNED, AND HORIZONTALLY SPACED IN ACCORDANCE WITH ATTACHMENT 6. TREE-FORM SHRUBS ARE DEFINED AS ANY SHRUBS THAT NATURALLY EXCEED 4 FEET IN HEIGHT.

F. SHRUBS RANGING FROM 18 INCHES TO 4 FEET IN HEIGHT SHALL BE DESIGNED AND MAINTAINED TO NOT CREATE AN EXCESSIVE FUEL MASS LARGER THAN 50% OF ZONE B. DESIGN CONTINUITY MASSING SHALL INCLUDE AREAS WITH SPECIES OF LOWER HEIGHTS TO REDUCE THE INTENSITY OF FIRE WITHIN ZONE B.

G. REMOVAL OF DEAD AND DYING VEGETATION ARE NOT PERMITTED IN ANY FUEL MODIFICATION ZONE.

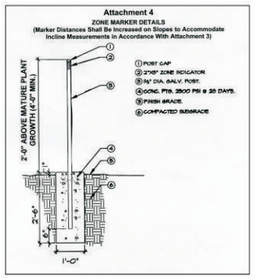
H. DEVICES THAT BURN SOLID FUELS ARE NOT PERMITTED IN ANY FUEL MODIFICATION ZONE.

I. COMBUSTIBLE CONSTRUCTION IS NOT ALLOWED WITHIN ZONE B.

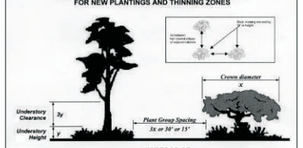
"There is no habitat within the proposed zone areas and there is no time restriction or animal nesting restrictions for performing the maintenance within the fuel modification zones".

"All existing plant material in zone 'A' & 'B' shall be removed prior to grading and establishing the manufactured slope".

Attachment 4
ZONE MARKER DETAILS
(Marker Distances Shall Be Increased on Slopes to Accommodate Incline Measurements in Accordance With Attachment 3)



Attachment 6
TREE AND TREE-FORM SHRUB PRUNING AND SPACING FOR NEW PLANTINGS AND THINNING ZONES



NOT TO SCALE

Vertical Clearance

1. Understory Clearance: New and existing trees and tree-form shrubs (naturally reaching 6' and taller), which are being retained with the approval of the agency having jurisdiction, shall be pruned to provide clearance of three times the height of the under-story plant material or 10 feet, whichever is greater (see figure above). New trees and tree-form shrubs may comply with the lesser if sufficient height is not available to achieve 10 feet.

Horizontal Separation:

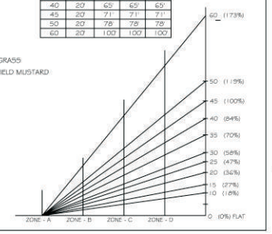
3. Plant Group Canopy Spacing:
   a. All shrubs and tree-form shrubs over 4 feet in height shall be single specimens or in a maximum grouping of 3 plants. Groupings shall be separated by a distance of 3 times the diameter of the largest individual mature crowns or 15 feet, whichever is greater (see figure above). Other grouping arrangements and spacing may be acceptable if approved by the OCFA.
   b. Trees shall be single specimens or in a maximum grouping of 3. Groupings shall be separated by a distance of 3 times the diameter of the largest individual mature crown or 30 feet, whichever is greater (see figure above). Other grouping arrangements and spacing may be acceptable if approved by the OCFA.
   c. Plant specimens listed in the OCFA "Approved Plant Palette Qualification Statement for Select Plant Species" shall comply with plant groupings and spacing requirements specified in those restrictions (see page 30).
   d. Tree-form shrubs should be spaced every three trees using the tree-form shrub spacing.
   e. Recommended canopy spacing for single trees is 30 feet and 15 feet for tree-form shrubs.

ATTACHMENT 7.
FIRE PRONE PLANT SPECIES (MANDATORY REMOVAL)

BOTANICAL NAME	COMMON NAME
CYNARA CARDUNCULUS	ARTICHOKE THISTLE
RICINUS COMMUNIS	CASTOR BEAN PLANT
CIRSIUM VULGARE	WILD ARTICHOKE
BRASSICA NIGRA	BLACK MUSTARD
SILYBUM MARIANUM	MILK THISTLE
SACSOLA AUSTALIS	RUSSIAN THISTLE/TUMBLEWOOD
NICOTIANA BIGELEVII	INDIAN TOBACCO
NICOTIANA GLAUCA	TREE TOBACCO
LACTUCA SERRIOLA	PRICKLY LETTUCE
CONYZA CANADENSIS	HORSEWEED
HETEROTHACA GRANDIFLORA	TELEGRAPH PLANT
ANTHEMIX COTULA	MAYWEED
URTICA URENS	BURNING NETTLE
CARDARIA DRABA	NOARY CRESS, PERENNIAL PEPPERGRASS
BRASSICA RAPA	WILD TURNIP, YELLOW MUSTARD, FIELD MUSTARD
ADENOSTOMA FASCICULATUM	CHAMISE
ADENOSTOMA SPARSIFOLIUM	RED SHANKS
CORTADERIA SELLOANA	PAMPAS GRASS
ARTEMISIA CALIFORNICA	CALIFORNIA SAGEBRUSH
ERIOGONUM FASCICULATUM	COMMON BUCKWHEAT
SALVIA MELLIFERA	BLACK SAGE
ORNAMENTAL	
CORRADERS	PAMPAS GRASS
CUPRESSUS sp	CYPRESS
EUCALYPTUS sp	EUCALYPTUS
JUNIPERUS sp	JUNIPER
PINUS sp	PINE

ATTACHMENT 7.
INCLINE MEASUREMENT FOR SELECTED SLOPES

SLOPE	ZONE WIDTH			
	A	B	C	D
0	20'	50'	50'	50'
10	20'	51'	51'	51'
15	20'	52'	52'	52'
20	20'	53'	53'	53'
25	20'	55'	55'	55'
30	20'	58'	58'	58'
35	20'	61'	61'	61'
40	20'	65'	65'	65'
45	20'	71'	71'	71'
50	20'	78'	78'	78'
60	20'	100'	100'	100'



ATTACHMENT 8
FUEL MODIFICATION ZONE PLANT LIST

CODE	BOTANICAL NAME	COMMON NAME
1. W	ABELIA X GRANDIFLORA	GLOSSY ABELIA
2. n	ACACIA REDOLENS DESERT CARPET	DESERT CARPET
3. o	ACER MACROPHYLLUM	BIG LEAF MAPLE
4. X	ACHILLEA MILLEFOLIUM	COMMON YARROW
5. W	ACHILLEA TOMENTOSA	WOOLLY YARROW
6. X	AEONIUM DECORUM	AEONIUM
7. X	AEONIUM SIMSII	no common name
8. W	AGAVE ATTENUATA	CENTURY PLANT
9. W	AGAVE SHAWII	SHAWS CENTURY PLANT
10. N	AGAVE VICTORIAE-REGINAE	no common name
11. X	AJUGA REPTANS	CARPET BUGLE
12. W	ALNUS CORDATA	ITALIAN ALDER
13. o	ALNUS RHOMBIFOLIA	WHITE ALDER
14. N	ALOE ARBORESCENS	TREE ALOE
15. N	ALOE ARISTATA	no common name
16. N	ALOE BREVIFOLIA	no common name
17. W	ALOE VERA	MEDICINAL ALOE
18. W	ALYOGYNE HUEGELII	BLUE HIBISCUS
19. o	AMBROSIA CHAMISSONIS	BEACH BUR-SAGE
20. o	AMORPHA FRUTICOSA	WESTERN FALSE INDIGOBUSH
21. W	ANIGOZANTHUS FLAVIDUS	KANGAROO PAW
22. o	ANTIRRHINUM NUTTALIANUM SSP.	no common name

ZONE "B"
AREA TO BE PLANTED WITH LOW GROUND COVER (4 TO 6 INCHES HIGH) AND IRRIGATED.

ZONE "A" = 40' + 6' CMU WALL IRRIGATED GROUND COVERT "TURF"
ZONE "B" = 25' TO 50' IRRIGATED ('ACHILLEA TOMENTOSA
ZONE "B" = 8 TREES 'ALNUS CORD @ 75' O.C.

0 Feet 125

Source: R. T. Quinn & Associates 2009

This page intentionally left blank.

3.9 WATER RESOURCES

The information and analysis in this Section is based in part on the following reports, provided in Appendix D of this Initial Study/Addendum:

- Water Quality Management Plan (WQMP) for: Whisler Ranch, 20001 Osterman Road, Lake Forest, CA 92630. R. T. Quinn & Associates, April 30, 2010.

- Hydrology Study for Whisler Ranch, 20001 Osterman Road, Lake Forest, CA 92630. R. T. Quinn & Associates, April 30, 2010.

The *City of Lake Forest CEQA Significance Thresholds Guide* (March 2009) was utilized as guidance in determining potential impacts to water resources (hydrology and water quality). Would the project:

SURFACE WATER AND FLOODING

a) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Impact. The project would not substantially change the amount of runoff from the site resulting from a 100-year storm. Runoff is currently 48 cubic feet per second (cfs) during a 100-year storm. With project implementation, runoff would decrease by about 1 percent, to 47 cfs. Project drainage features, including proposed storm drains, have been designed to accommodate drainage from a 100-year storm event. The rate and volume of runoff discharging from proposed storm drains to existing storm drains in Regency Lane and Osterman Road would not exceed the capacity of the existing storm drains (R. T. Quinn & Associates 2010a), and would not result in flooding on or off-site.

Applicable OSA Program EIR Mitigation Measure

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project. In cases where these OSA mitigation measures have been satisfied by studies prepared for this Initial Study/Addendum, it is so noted in *italics*,

W MM-1 (OSA Program EIR Mitigation Measure 3.8-5) Hydrology and hydraulics study.

Prior to obtaining a grading permit, the applicant shall conduct a hydrology and hydraulics study to determine potential stormwater runoff rates and peak flows for the City of Lake Forest and County of Orange design storms, as well as the 100-year storm for both existing and Proposed Project conditions. Sufficient detail shall be provided to develop the existing conditions and Proposed Project conditions potential hydrograph and timing of peak flows. Studies shall be completed by a qualified professional and be consistent with standard engineering practices for the region, such as use of the criteria of the Orange County Hydrology Manual. Furthermore, the effect of stormwater discharge to any City-, County-, or Other Agency–owned drainage or flood control facility shall be assessed and mitigation measured designed and implemented to prevent post-construction stormflows from exceeding pre-construction volumes and rates. (*It is noted that the hydrology study prepared for the proposed project project satisfies this mitigation measure*).

Impacts would be less than significant and no mitigation is needed.

b) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems.

No Impact. Project impacts on the site drainage pattern are described above in Section 3.9.a. The project includes proposed storm drainage improvements designed to accommodate onsite drainage from a 100-year storm, and so that drainage discharging from proposed drainage improvements to existing storm drains offsite would not exceed the capacity of the offsite storm drains. Impacts still would be less than significant and no changes to the OSA PEIR would be necessary.

c) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project is in flood hazard zone X as designated by the Federal Emergency Management Agency (FEMA 2009). Flood hazard zone X indicates areas outside of 100-year and 500-year flood zones (FEMA 2010). The project would not place housing in a 100-year flood zone. No new impact would occur.

d) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The project site is outside of 100-year and 500-year flood hazard zones. Project development would not redirect flood flows in a 100-year flood hazard zone. Impacts still would be less than significant and no changes to the OSA PEIR would be necessary.

e) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project site is in the San Diego Creek and Aliso Creek watersheds. There are no dams upstream from the project site in either of these watersheds that could pose a flooding hazard to the site due to dam failure. Upper Oso Reservoir is approximately 1.8 miles east of the site. However, the reservoir is in the Oso Creek watershed, and the project site is outside of the reservoir's dam inundation area (OES 2007). Serrano Creek (in the San Diego Creek watershed), and Aliso Creek, near the project site are not protected by levees; thus, there is no risk of flooding to the site due to failure of a levee. No impact would occur, and no mitigation is needed.

f) Cause inundation by seiche, tsunami, or mudflow?

No Impact. A seiche is a surface wave created when an inland body of water is shaken, usually by earthquake activity. There is one aboveground water tank about 1,200 feet northeast of the project site. The tank is approximately 215 feet in diameter; there is a surface reservoir, roughly 250 feet by 180 feet in area, next to the west side of the tank. The surface reservoir appears in aerial photographs dating to 1968; however, the aboveground tank only appears in photographs dating to 1990. Modern building codes would reduce the potential for tank failure due to a seiche. The tank and reservoir are at the top of a hill about 860 feet elevation. In the event of overtopping of the reservoir due to a seiche, floodwater would flow downslope to the west. A proposed setback sloped up from Regency Lane would keep any proposed habitable structures onsite above floodwaters that could result from a seiche. Impacts would be less than significant, and no mitigation is needed.

A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. The project site ranges from 735 to 820 feet above mean sea level, and is not at risk

of flooding due to a tsunami.

A mudflow is a landslide composed of saturated rock debris and soil with a consistency of wet cement. At project completion, the site surface would consist of buildings, paved areas, and landscaped areas, and is not expected to pose a hazard of mudflow onsite or downstream from the site. The project would comply with recommendations concerning slope stability in the Geotechnical Investigation Report; in addition, the construction phase of the project would use BMPs to minimize erosion that would help reduce the potential for mudflows. Impacts would remain less than significant and no revisions to the OSA PEIR are necessary.

g) Deposit sediment and debris materials within existing channels obstructing flows

No Impact. The project would prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) specifying Best Management Practices (BMPs) to be used to minimize pollution of stormwater from project construction and operation, including pollution with sediment and debris. Impacts would be less than significant.

h) Exceed the capacity of a channel and cause overflow during design storm conditions.

No Impact. Project impacts to stormwater drainage rates are addressed above in Section 3.9.a. Stormwater drainage rates at project completion would not exceed the capacity of either Serrano Creek or Aliso Creek. Impacts would remain less than significant.

GROUNDWATER

i) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact.

Groundwater Use

The project would not involve groundwater wells. There is currently no water use onsite, as the site is vacant. The Irvine Ranch Water District (IRWD) would provide water to the project; IRWD supplies water to most of the City of Lake Forest and all of the City of Irvine. Currently, approximately 50 percent of IRWD's potable water supply comes from imported water purchased from the Metropolitan Water District of Southern California (MWD). The balance of IRWD's potable supplies come from locally-developed groundwater, from the Orange County Main Groundwater Basin (OCMGWB) including the Irvine Sub-basin of the OCMGWB. IRWD obtains nonpotable water from four sources: recycled water from IRWD wastewater treatment plants; untreated MWD water; surface water; and non-potable groundwater.

Water Supply and Demand in IRWD's Service Area

Forecast water supplies and demands in IRWD's service area, and in the part of the service area in the City of Lake Forest, are shown below in Table 3.9-1.

Project Water Demand

The project during operation is estimated to use 385 gallons per day per unit (EIP Associates 2008), for a total of 26,180 gallons per day.

As shown in Table 3.9-1, IRWD forecasts that it will have sufficient water to meet demands in its service area through 2025, including demands in the part of its service area in the City of Lake Forest. In addition, the Water Supply Assessment prepared for the OSA PEIR concluded that there would be adequate water supply for development of 5,415 homes and some nonresidental uses pursuant to the PEIR. Water use by the proposed project would not substantially deplete groundwater supplies.

Table 3.9-1
IRWD Supplies and Demands, Acre-Feet per Year

	2010	2015	2020	2025
IRWD Total[1]				
Supply	164,121	161,421	165,014	166,434
Demand	116,710	123,119	130,063	135,208
Difference	47,411	38,302	34,951	31,226
City of Lake Forest: part served by IRWD[2]				
Demands: Potable	17,367	18,861	18,972	18,972
Demands: Nonpotable	1,619	1,843	2,052	2,052
Total Demands	18,986	20,704	21,024	21,024

Sources:
[1] IRWD 2005
[2] EIP Associates 2008

Groundwater Recharge

The site presently consists almost entirely of permeable surfaces through which stormwater can infiltrate into the ground. At project completion about half of the project site would be impermeable surfaces unavailable for infiltration of stormwater. Changes in runoff rates from the site resulting from a 100-year storm are shown in Table 3.9-2.

Table 3.9-2
Runoff Increase Resulting from Project Development, Cubic Feet per Second (cfs)

Condition	Watershed F (drains to Regency Lane; in San Diego Creek Watershed)	Watershed J (drains to Osterman Road; in Aliso Creek Watershed)	Total
Postdevelopment	15	33	48
Predevelopment	14	33	47
Percent Change	-5%	0%	-1%

Source: R. T. Quinn & Associates 2010a

During a 100-year storm the project would increase runoff from the site by 10.28 cubic feet per second (cfs), an decrease of approximately 1 percent compared to existing conditions. Much of the runoff, such as from roofs and driveways, would be directed to landscaped areas onsite; thus, some runoff could infiltrate into soil. The project would not substantially decrease groundwater recharge. No mitigation measures are needed and the PEIR does not need to be revised.

j) Adversely change the rate, direction, or flow of groundwater

No Impact. Groundwater below the site and surroundings is expected to be well over 100 feet below ground surface. Site grading would reach a maximum of approximately 35 feet below existing ground surface, and would not reach close to 100 feet in depth. Project development would not change the orientation of

groundwater-bearing sediments and would not introduce barriers to groundwater flow in the region. Impacts to groundwater supplies are addressed above in Section 3.9.i. Impacts would remain less than significant.

k) Have an impact on groundwater that is inconsistent with a groundwater management plan prepared by the water agencies with the responsibility for groundwater management.

No Impact. The Orange County Water District (OCWD) manages groundwater supply in the Orange County Main Groundwater Basin ("Basin"); the Santa Ana Regional Water Quality Control Board manages groundwater quality in the Basin. Project impacts on water quality would comply with requirements of the General Construction Permit issued by the SWRCB. The project would implement BMPs for water quality protection as specified in the project WQMP, and as would be specified in the project SWPPP; thus, substantial pollution impacts to groundwater are not anticipated.

Selenium

Selenium is a nutritionally essential trace element that is toxic at higher doses. High levels of selenium have been shown to cause reproductive failure and birth defects in birds (DTSC 2001). In 2004 the Santa Ana RWQCB issued an NPDES permit setting limits on selenium concentration in groundwater in the Newport Bay Watershed (Order R8-2004-0021). Concentrations of selenium in groundwater in the Newport Bay Watershed frequently exceed the permitted limit. The Orange County Nitrogen and Selenium Management Program was established for the study of selenium impacts and water treatment methods (OCNSMP 2010).

Applicable OSA Program EIR Mitigation Measure

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

W MM-2 (OSA Program EIR Mitigation Measure 3.8-3) Prior to the issuance of a grading permit, the applicant shall be required to join the Nitrogen and Selenium Working Group in order to establish eligibility for the de minimus permit implemented by the Santa Ana Region of the RWQCB.

Project impacts on groundwater supplies would be consistent with IRWD and OCWD management of the Basin. Impacts would remain less than significant.

WATER QUALITY

l) Violate any water quality standards or waste discharge requirements?

No Impact.

Existing Site Drainage

Approximately 4.4 acres on the northern part of the site drains to Regency Lane. Runoff from that part of the site enters Serrano Creek, which discharges into San Diego Creek. San Diego Creek terminates into Upper Newport Bay; Newport Bay is contiguous with the Pacific Ocean. Runoff from the remainder of the site drains to Osterman Road, and enters Aliso Creek, which discharges into the ocean.

Construction Phase

Discharges into stormwater by the project during the construction phase would be regulated by the General Construction Permit, SWRCB Order No. 2009-0009-DWQ. The General Construction Permit requires the project to prepare and implement a SWPPP specifying BMPs that the project would use to minimize contamination of stormwater; these BMPs are described further above in Section 3.6.b.

Operations Phase

A Water Quality Management Plan (WQMP) has been prepared for the project pursuant to Santa Ana Regional Water Quality Control Board Order No. R8-2009-0030 issued in 2009, regulating urban storm water runoff in Orange County; and San Diego Regional Water Quality Control Board Order No. R9-2009-0002, also issued in 2009. The WQMP specifies Best Management Practices (BMPs) that the project would implement to minimize stormwater runoff pollutants.

Project Pollutants of Concern

Water pollutants that are expected to result from the project are grouped in two categories. Primary pollutants of concern are those for which downstream receiving waters are listed on the Clean Water Act Section 303(d) list of California impaired water bodies. San Diego Creek is listed as impaired by organic compounds (Chlordane, Chorpyrifos, DDT, Diazinon, Dieldrin, PBCs, and Toxaphene), and metals (cadmium, copper, lead, selenium, zinc, mercury, and chromium). Aliso Creek is listed as impaired by bacteria, phosphorus, and toxicity. Secondary pollutants are those that would be generated by the project but that receiving waters are not listed as impaired by. Primary pollutants for the project are: metals; toxicity; bacteria and pathogens (disease-causing microbes and viruses); and nutrients (such as phosphorus). Secondary pollutants for the project are oil and grease; oxygen-demanding substances; pesticides; sediment; and trash and debris.

Best Management Practices

BMPs that would be used in site design are categorized as Site Design BMPs; Source Control Structural BMPs; and Treatment Control BMPs. Site Design and Source Control Structural BMPs are aimed at minimizing post-project runoff and minimizing the amounts of pollutants that enter stormwater. Treatment control BMPs remove pollutants from stormwater by means such as filtration or bio-filtration.

Site Design BMPs

Site Design BMPs included in the project WQMP are described below in Table 3.9-3.

Table 3.9-3
Site Design BMPs

1. Minimize Stormwater Runoff, Minimize Project's Impervious Footprint and Conserve Natural Areas
1. Minimizing impervious footprint: The project layout includes significant landscape area, such as frontage and side yards, around each residence. The project perimeter would be landscaped.
2. Conservation of natural areas: The fuel modification setback along the northwestern boundary consists of a landscaped slope and "pedestrian friendly" linear park.
3. Use of permeable paving or other surfaces: The project will incorporate permeable pavers at the "A" Street entrance and in the guest parking areas in the bulbs of the cul-de-sacs of "C" and "E" Streets.
4. Use of landscaped buffers. The vertical curb side of the private streets will be adjacent to landscaped areas only.
5. Maximize canopy interception of rainfall: The project perimeter would be heavily planted with four to five species of trees, which, at maturity, will be canopy-to-canopy.
6. Use of native or drought tolerant trees/shrubs: Two-thirds of the trees specified are drought-tolerant species. Three-quarters of the shrubs and groundcovers are also drought tolerant.
7. Minimizing impervious surfaces in landscaping: The narrow pedestrian walkways are the only impervious surfaces in the landscape areas.
8. Use of natural drainage systems: Residential lots are to be drained using vegetated swales along with area drains where needed.
9. Low flow infiltration: Low flow runoff will be directed to Modular Wetlands Systems-Linear biofiltration devices, to be treated prior to discharge into the public storm drain.
2. Minimize Directly Connected Impervious Areas
1. Draining rooftops into adjacent landscaping: The CC&Rs shall require that roof drain downspouts are to be drained to pervious landscaped areas around residential lots and Splash pads are to be incorporated to prevent erosion of landscaped areas.
2. Draining to adjacent landscaping: The majority of the residential walkways and roof drains will discharge into landscaped areas around the residences. Site hardscape runoff is directed to Modular Wetlands Systems-Linear biofiltration devices.
3. Vegetated drainage swales: Vegetated swales will be used to drain runoff from the farthest reaches of the residential lots out to the private driveways.
4. Site drainage system: The onsite drainage system consists of surface flow to catch basins, with a pipe network which routes the "first flush" runoff to Modular Wetlands Systems Linear biofiltration devices.
5. Residential driveways: Driveway footprints have been designed to be the minimum size required to reduce the impervious surface area of each lot.
6. Non-residential parking areas: Guest parking will be provided around the bulbs of cul-de-sacs of "C" and "E" Streets. Permeable pavers will be used in these areas to aid first contact infiltration and capture a majority of the pollutants generated (oil, grease, automotive fluids, etc.) at the source.

Source: R. T. Quinn & Associates 2010a.

Source Control Structural BMPs

Source control BMPs focus on minimizing post-project runoff and controlling sources of pollutants. Source control BMPs included in the project are listed below in Table 3.9-4.

Table 3.9-4
Source Control Structural BMPs

BMP	*Explanation/Description*
Site Design and Landscape Planning: Landscape planning methodologies are incorporated into project design to maximize water storage and infiltration opportunities and minimize surface and groundwater contamination from stormwater.	Landscaped areas have been maximized in the site layout to provide first contact infiltration and reduce impervious surfaces where practical.
Roof Runoff Controls: Direct roof runoff away from paved areas and to pervious areas, cisterns, infiltration trenches, and/or storage areas for reuse to reduce total volume and rate of site runoff and retain pollutant on site.	Roof drain downspouts are to be directed to landscaped areas around residential lots. Splash pads shall be provided at downspout outlet to prevent erosion of landscaped areas.
Efficient Irrigation: Project plans include application methods to minimize irrigation water discharged into stormwater drainage systems. The City of Lake Forest has a Water Efficient Landscape Ordinance (Municipal Code Section 9.146.110); the project would comply with that ordinance.	Landscaped common areas shall be irrigated efficiently to reduce dry weather runoff. Common area irrigation is to be maintained by the HOA. Residents are to be educated on efficient irrigation practices to minimize residential dry weather runoff.
Stormdrain System Signs: Stencils or affixed signs a placed adjacent to stormdrain inlets to prevent waste dumping at stormdrain inlets.	All catch basins are to be equipped with "No Dumping – Drains to Ocean" stencils and/or placards.
Pervious Pavements: Porous concrete or asphalt, blocks with pervious spaces or joints, or grass or gravel surfaces are employed to reduce runoff volume and provides treatment.	Permeable concrete pavers are to be incorporated at the "A" Street entrance and at the bulbs of the cul-de-sacs of "C" and "E" Streets, where guest parking is provided.
Alternative Building Materials: Specialized building materials are employed that have lower potential to leach pollutants, and reduce need for future painting or other pollutant generating maintenance activities. For example, some treated wood contains pollutants that can leach out to the environment and some metal roofs and roofing materials result in high metal content in runoff.	Water quality is to be considered when selecting building materials and using equipment during construction operations.
Trash Enclosures: Trash storage areas are covered and enclosed to prevent introduction of trash and debris to site runoff.	Each residence will be equipped individual containers for trash, recycling, and green waste.
Vehicle and Equipment Washing Areas: Construction phase. To be addressed in project SWPPP.	
Outdoor Material Storage Areas: Construction phase. To be addressed in project SWPPP.	

Source: Source: R. T. Quinn & Associates 2010a.

Treatment Control BMPs

Treatment control BMPs use treatment mechanisms, such as filtration or biofiltration, to remove pollutants that have entered stormwater. The Treatment Control BMPs for this project will consist of Kristar FloGard Catch Basin Filter Inserts in all onsite catch basins, which capture oil and grease from stormwater runoff, and Modular Wetlands Systems Linear Biofiltration units (MWS-Linear) to treat the remaining stormwater pollutants from the runoff; these treatment controls BMPs are described further below in Table 3.9-5. The stormwater flow rate requiring treatment is that resulting from rainfall of 0.2 inches per hour, and would be 1.04 cubic feet per second (cfs) for the whole project site.[17]

[17] 0.75 cfs for the part of the site draining toward Osterman Road, and 0.29 cfs for the part of the site draining toward

Table 3.9-5
Treatment Control BMPs

BMP	Explanation/Description
Wetland: Similar to a constructed wetland but a self contained, manufactured module with vegetation that mimics natural wetland processes.	Modular Wetlands Systems (MWS-Linear) has been incorporated into the site design.
Vegetated Swale: Open, shallow, vegetated channels that collect and slowly convey runoff through the property. Filters runoff through vegetation, subsoil matrix, and/or underlying soils; traps pollutants, promotes infiltration and reduce flow velocity.	Vegetated swales will convey runoff collected at the back portions of the residential lots to the private driveway drainage system.
Media Filter: Usually two-chambered with a pretreatment settling basin and a filter bed filled with sand or other absorptive filter media.	Modular Wetlands Systems (MWS-Linear) are incorporated in site design. The Modular Wetland System - Linear (MWS-Linear) incorporates capture, screening, hydrodynamic separation, advanced media filtration, bioretention, and high flow bypass into a modular pre-cast concrete structure.
Water Quality Inlet: Vaults with chambers including screens, settling areas, and/or filter media to promote settling and/or separation of pollutants from stormwater.	Catch basins are to be equipped with Kristar FloGard Catch Basin Filter Inserts and Fossil Rock oil/grease filter pouches.

Source: Source: R. T. Quinn & Associates 2010a.

BMPs for Use in Project Operation

Source Control Non-Structural BMPs are used during project operation to minimize runoff and to reduce the amounts of pollutants entering stormwater. Source control non-structural BMPs that would be used by the project are described below in Table 3.9-6.

Table 3.9-6
Source Control Structural BMPs Used in Site Design

BMP	Explanation/Description
Education for Property Owners, Tenants and Occupants: Practical informational materials are provided to residents, occupants, or tenants to increase the public's understanding of stormwater quality, sources of pollutants, and what they can do to reduce pollutants in stormwater.	Educational materials are to be provided as a part of the CC&Rs for residents and are an important part of improving storm water quality. "Stormwater 101", a presentation by the Orange County Watershed Program, is provided as an appendix to the WQMP.
Activity Restrictions: Rules or guidelines for developments are established within appropriate documents (i.e. Codes, Covenants, and Restrictions [CC&Rs], lease terms, etc.) which prohibit activities that can result in discharges of pollutants.	CC&Rs are to be determined prior to approval of a Final Tract Map.
Common Area Landscape Management: Specific practices are followed and ongoing maintenance is conducted to minimize erosion and over-irrigation, conserve water, and reduce pesticide and fertilizer applications.	The Homeowners' Association (HOA) will be responsible for maintenance of the common landscaped areas onsite.
BMP Maintenance: In order to ensure adequate and comprehensive BMP implementation, all responsible parties are identified for implementing all non-structural BMPs and for structural BMPs, cleaning, inspection, and other maintenance activities are specified including responsible parties for conducting such activities.	The HOA would be responsible for onsite BMP maintenance per Operations and Maintenance Plan, Section 8.1 of the WQMP.
Local Water Quality Permit Compliance: The project complies with water quality permits issued by the City to ensure clean	The project would comply with all water quality permits issued by the City, County, State, etc.

Regency Lane.

stormwater discharges.	
Spill Contingency Plan:	A Spill Contingency Plan is implemented to ensure that spills are managed properly by requiring stockpiling of cleanup materials, notification of responsible agencies, disposal of cleanup materials, documentation, etc..
Hazardous Materials Disclosure Compliance:	Because hazardous materials or wastes will be generated, handled, transported, or disposed of in association with the project, measures are taken to comply with applicable local, state, and federal regulation to avoid harm to humans and the environment.
Common Area Litter Control: Trash management and litter control procedures are specified, including responsible parties, and implemented to reduce pollution of drainage water.	The HOA would be responsible for all Common Area maintenance.
Employee Training: Practical informational materials and/or training are provided to employees to increase their understanding of stormwater quality, sources of pollutants, and their responsibility for reducing pollutants in stormwater.	Educational Materials to be provided to the HOA are included in an appendix to the WQMP.
Drainage Facility Inspection: Inspection procedures, schedules, and responsibilities are established for drainage facilities to ensure regular cleaning, inspection, and maintenance.	The HOA would be responsible for all Drainage Facility Inspection and Maintenance. Inspection and Maintenance procedures are outlined in the Operation and Maintenance Plan in WQMP Section 8.1.
Street Sweeping Private Streets and Parking Lots: Street sweeping frequency and responsible parties are identified and regular sweeping is conducted to reduce pollution of drainage water.	Regular street sweeping is the responsibility of the HOA, as outlined in the Operation and Maintenance Plan in WQMP Section 8.1.

Source: Source: R. T. Quinn & Associates 2010a.

The project would comply with water quality standards and with requirements regarding discharge of wastes to stormwater through implementation of BMPs specified in the project WQMP, and BMPs that will be specified in the project's SWPPP.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project. In cases where these OSA mitigation measures have been satisfied by studies prepared for this Initial Study/Addendum, it is so noted in *italics*.

W MM-3 (OSA Program EIR Mitigation Measure 3.8-1). Prior to approval of a Parcel Map or a Tentative Tract Map (whichever comes first), the applicant shall submit a Water Quality Management Plan (WQMP), including a hydrology study, if appropriate, for review and approval of the City Engineer. The Plan shall include Best Management Practices (BMPs) in accordance with the latest City of Lake Forest Water Quality Management Plan Template User Guide and include stormwater detention/retention features, if necessary, to mitigate impacts of changes in stormwater rates or volumes as identified in the site-specific hydrology study. (*It is noted that the WQMP prepared for the proposed project satisfies this mitigation measure*).

W MM-4 (OSA Program EIR Mitigation Measure 3.8-2). All City landscape contractors and project developers shall be required, as part of their contract, to submit to the City a landscape design plan including the following elements:

- Maximized use of native plant species with minimum water and fertilizer requirements

- Watering shall be kept to the minimum necessary to maintain new landscaping
- Drip irrigation shall be used only until the native landscaping is established
- Minimal use of fertilizers and pesticides

(*It is noted that certain BMPs incorporated in the WQMP prepared for the proposed project, and requirements regarding irrigation, landscape design, and plant selection in the landscape plan prepared for the project, satisfy this mitigation measure*).

W MM-2 (OSA Program EIR Mitigation Measure 3.8-4) Prior to the issuance of a grading permit, the applicant shall develop and implement appropriate Best Management Practices, such as a nutrient management program, to reduce the amount of nutrients entering the watershed (see San Luis Rey Watershed Urban Runoff Management Program http://www.projectcleanwater.org/html/wurmp_san_luis_rey.html) for an example of a management program that addresses nutrients). In addition, a pesticide management program shall be developed to reduce the amounts of pesticides entering the watershed through minimizing the use of pesticides and emphasizing s non-chemical controls (see the City of San Francisco's Integrated Pest Management Program (http://www.sfgov.org/site/frame.asp?u=http://www.sfwater.org/) for an example). These plans shall be approved by the City prior to issuance of a grading permit.

m) Cause a significant alteration of receiving water quality during or following construction

No Impact. Project construction impacts to water quality would be minimized through BMPs to be specified in the project SWPPP, described further above in Section 3.6(l). The project's operational impacts to water quality would be controlled through BMPs specified in the project WQMP and described in the previous Section. The project would not cause a significant alteration of receiving water quality, and impacts would be less than significant.

n) Substantially degrade groundwater quality

No Impact. BMPs specified in the project WQMP, and that would be specified in the project SWPPP, would minimize project-generated pollution affecting soil and that could affect groundwater. Impacts would be less than significant and no revisions to the OSA PEIR are required.

o) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.

No Impact. There are no streams or rivers on or next to the site, and project development would not change the course of a stream. The nearest USGS blue-line stream to the site is Serrano Creek roughly 1,200 feet to the west. Approximately 4.4 acres on the northern part of the site drains to Regency Lane. Runoff from that part of the site enters Serrano Creek, which discharges into San Diego Creek. Runoff from the remainder of the site drains to Osterman Road, and enters Aliso Creek.

At project completion the drainage pattern onsite would be very roughly similar to the existing pattern. A sloped area of approximately 1.2 acres along the northwestern site boundary would drain to Regency Lane, while the balance of the site would drain to Osterman Road. The project would include several curb opening catch basins along proposed private streets, and on Regency Lane; and storm drains under parts of the proposed private street network, that would discharge to a storm drain under Osterman Road.

Project features to direct runoff to permeable areas onsite would include vegetated swales; landscaped buffers along sidewalks; and downspouts directing runoff from roofs into landscaped areas. The project would prepare and implement a SWPPP, pursuant to NPDES regulations, specifying BMPs the project would use to minimize soil erosion during project construction. Development of the project would not result in substantial erosion. Impacts would be less than significant, and no revisions to the OSA PEIR are needed.

p) Create or contribute runoff water which would generate substantial additional sources of polluted runoff?

No Impact. Project impacts to stormwater quality are addressed above in Section 3.9(l) for the construction phase, and Section 3.9(a) for the operations phase. Impacts would remain less than significant, and no mitigation is required.

q) Substantially degrade water quality by discharge which affects the beneficial uses (i.e. swimming, fishing, etc.) of the receiving or downstream waters?

No Impact. The beneficial uses of Serrano Creek, in the San Diego Creek watershed, consist of: municipal supply; and intermittent uses: groundwater recharge; recreation (both recreation involving body contact with water, such as swimming, and not involving body contact with water, such as hiking and birding); warm freshwater habitat; and wildlife habitat (SARWQCB 2008). The existing beneficial uses of Aliso Creek are agricultural use; non-body-contact recreation; warm freshwater habitat; and wildlife habitat. The project would implement BMPs specified in the project WQMP, and to be specified in the project SWPPP. The project would not have substantial adverse affects on beneficial uses of downstream waters, and project water quality impacts would be less than significant.

r) Increase in any pollutant for which the receiving water body is already impaired as listed on the Clean Water Act Section 303(d) list.

No Impact. Pollutants for which receiving waters are listed on the 303(d) list are specified above in Section 3.9(a). The project would implement BMPs and thus would not substantially increase any pollutant specified on the 303(d) list. Impacts would be less than significant.

3.10 LAND USE AND PLANNING

a) Physically divide an established community?

No Impact. The project would develop single-family residential uses on a site surrounded by a residential uses, Regency park, open space, and light industrial uses. The project would not divide an established community. Rather, the proposed project would complement the existing pattern of residential development in the area by constructing single-family residential units of a comparable size. No impacts would occur.

b) Substantially conflict with existing on-site or adjacent land use due to project-related significant unavoidable indirect effects (e.g., noise, aesthetics, etc) that preclude use of the land as it was intended by the General Plan.

No Impact. The project site is vacant. The Land Use Element of the City's General Plan identifies the general locations and intensities of land uses within the City. The General Plan land use designation for the site is Low Density Residential, which permits residential development at densities of two to seven residential units per acre. The project would develop 68 detached single-family residential units on a 12.65-acre site, for a density of 5.4 units per gross acre (2 to 7 units per net acre); thus, the project would be consistent with the

existing General Plan designation. Surrounding land uses are multi-family residential to the south; Regency Park to the southeast and single family residential beyond; natural open space to the northwest and northeast; and commercial (office) uses to the north opposite Regency Lane. The General Plan designation for the open space to the northeast is Community Park/Open Space, and the designation for the open space to the northwest is Commercial. As discussed in the OSA PEIR, project development would not conflict with any existing surrounding land uses, or any planned surrounding land uses as designated in the General Plan. Impacts would remain less than significant and no revisions to the PEIR are necessary.

c) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

No Impact. The General Plan land use designation for the site, in relation to the proposed land use, is discussed in the previous Section. The zoning district onsite is Residential Single-Family Planned Development (RS-PD). Single-family dwellings or mobile homes (one building per site) are a permitted use in the RS-PD District. As analyzed in Section 3.9 of the OSA PEIR, the proposed project would develop detached single-family homes on the site at a density of 5.4 units per gross acre and would be consistent with the existing zoning regulations and adopted design guidelines. Impacts would remain less than significant, and no mitigation is required.

The project will comply with applicable provisions of the NCCP/HCP. Payment of a mitigation fee is required for impacts to coastal sage scrub under the NCCP/HCP. See discussion in Section 3.4*, Biological Resources.*

3.11 MINERAL RESOURCES

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. The project site is in Mineral Resource Zone 3 (MRZ-3), indicating areas containing mineral deposits, the significance of which cannot be determined from available data (CDMG 1994). There is an existing sand and gravel mine approximately 0.4 mile northeast of the project site. The proposed project site does not contain mineral resources of known value to the region and the state, and project development would not make such resources unavailable.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The project site is not in a mineral resource area designated in the City of Lake Forest General Plan. The General Plan designates one mineral resource area, the former gravel pit mentioned above. No new impact would occur.

3.12 NOISE

This analysis section is based in part on the Noise Impact Analysis technical report prepared by Hans Giroux & Associates which is included in Appendix G to the Initial Study. It includes characterization of noise and vibration, existing regulations, and calculations for traffic noise levels.

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

No Impact. The following describes project-related impacts from long-term operation of this project.

Mobile-Source Noise Impacts

Long-term noise concerns from the development of residential uses at the project site center primarily on mobile source emissions on project area roadways. These concerns were addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway noise model (the FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108). The model calculates the L_{eq} noise level for a particular reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, roadway speeds, or noise barriers.

Table3.12-1 summarizes the calculated 24-hour CNEL level at 50 feet from the roadway centerline along two project adjacent roadway segments. Two short-term traffic scenarios were evaluated; existing conditions, and existing plus project. The noise analysis utilized data from the project traffic analysis, prepared in February of 2010, by Infrastructure Group, Inc, for this project.

Onsite noise measurements, as shown in Table 3 of the noise technical report (see Appendix E), correlate well with calculated traffic noise levels. Closest to Osterman Road, observed CNELs were 62.2 dB and with a calculated noise level of 61.6 dB at 50 feet from the centerline. Along Regency Lane at the project site, observed noise readings showed a noise level of 66.3 dBA CNEL and a calculated noise level of 65.7 dBA CNEL.

The project itself would not cause any roadway segment to exceed the +3 dB CNEL threshold. As shown in the table, the largest project related noise increase is +0.5 dB CNEL at 50 feet from the roadway centerline. This segment is along Osterman Road**,** west of "A" Street adjacent to the project site entrance. Therefore, project related traffic noise impacts would be less than significant.

Table 3.12-1
Traffic Noise Impact Analysis (CNEL in dB at 50 feet from Centerline)

Road Segment	*Existing*	*Existing + Project*	*Project Impact*
Regency Lane/ N of Osterman	65.7	65.9	+0.2
S of Osterman	58.3	58.4	+0.1
Osterman Road/ W of "A" Street	61.6	62.1	+0.5
"A" Street - Regency	61.6	62.0	+0.4

Stationary-Source Noise Impacts

The proposed residential development would lead to the introduction of new stationary noise at the project site, including heating, ventilation, and air conditioning (HVAC) units in addition to stationary source noise from landscaping activities. The existing uses surrounding the project site currently generate these types of noise sources and the proposed residential uses would not generate noise levels significantly above these existing land uses. HVAC and other mechanical systems would be installed to comply with the City of Lake Forest municipal code regulating noise (Chapter 11.16). Therefore, noise impacts from mechanical equipment would be less than significant.

Noise Compatibility

The City's maximum permitted exterior noise level for residential uses is 65 dB. Residential noise exposures are calculated at areas of probable use (backyard, patio, spa, pool, play equipment, etc.), which is considered the "receiver" location. Commonly accepted industry practices dictate that the receiver location be 10 feet inside the rear lot line to represent the location of the backyard with the highest use and average noise levels. The assumed receiver locations for Whisler Ranch lots located closest to Osterman Road and Regency Lane are as follows:

Lot 64 - 45 feet from Regency Lane Centerline
Lot 65 - 50 feet from Osterman Road Centerline

With these setbacks the following "with project" traffic noise levels are predicted in Table 3.12-2.

Table 3.12-2
Exterior Noise Levels

Lot	*Noise Level at 50 feet[1] (dB CNEL)*	*Receiver Setback (feet)*	*Adjusted Noise Level[2] (dB CNEL)*
64	65.9	45	66.4
65	62.1	50	62.1

Notes:
[1] Data provided in Table 4 of the noise technical report (see Appendix G).
[2] The adjusted noise levels were calculated for the reference traffic volume at a 50-foot reference distance from the centerline of the roadways (i.e., Osterman Road and Regency Lane) and then adjusted for varying setbacks from the roadways.

Exterior noise levels for homes sited along Osterman Road are not predicted to exceed the maximum 65 dB CNEL noise level since the receiver area with the closest setback has calculated noise levels well below the noise level threshold. However, select homes along Regency Lane may require a noise wall along the rear property line to attenuate traffic noise to a level that is consistent with the City's noise standards. At a distance of 50 feet from the centerline along Regency Lane north of Osterman Road, the predicted noise level is 65.9 dB CNEL. As shown in the table, the receiver setback of Lot 64 is 45 feet from the centerline of Regency Lane. In general, as the distance between a noise source and receiver diminishes, the noise levels at the receiver location will increase and vice versa. Therefore, because the receiver location of Lot 64 is closer at 45 feet from the centerline of Regency Lane compared to the 50-foot reference distance, the adjusted noise level at the receiver location of Lot 64 is higher at 66.4 dB CNEL. Residential lots would require a setback distance of 63 feet or more to reduce exterior noise levels to less than 65 dB if no noise barrier is constructed. Homes along Regency Lane that are farthest from Osterman Road (Lots 52 – 58) have a setback farther than 63 feet from Regency Lane and greater elevation differential between Regency Lane and the lots. Therefore, these homes would not require a wall to meet the 65 dB threshold.

A four-foot solid wall above grade would be necessary at the rear lot lines of Lots 59 to 64 located along the Regency Lane frontage as shown in Table 3.12-3 to reduce exterior noise to below the 65 dB CNEL maximum noise level. The walls would break the line of sight and provide sufficient noise attenuation to reduce traffic noise levels for exterior recreational uses. Noise levels at the receiver locations of Lots 57 to 64 are summarized in Table 3.12-4.

Table 3.12-3
Lots Adjacent to Regency Lane

Lot	Receiver Location Relative to Regency Lane (feet)	Home Pad Elevation (feet)	Roadway Elevation (feet)	Pad-Roadway Elevation Differential (feet)	Proposed 4' Wall Setback to Regency Lane[1] (feet)
64	45	766	760	6	35
63	45	766	756	10	35
62	45	767	755	12	35
61	50	768	753	15	40
60	55	769	751	18	45
59	62	771	748	23	52
58	68	772	747	25	NA
57	93	773	750	23	NA
56	79	774	744	30	NA
55	83	775	743	32	NA
54	84	776	742	34	NA
53	85	777	741	36	NA
52	90	778	740	38	NA

Notes:
[1] Potential wall sited at lot line abutting Regency Lane

Table 3.12-4
Exterior Noise Levels

Lot	Noise Level With No Wall (dB CNEL)	Noise Level With Proposed Wall (dB CNEL)
64	66.8	61.6
63	66.8	59.2
62	66.7	58.6
61	66.1	57.7
60	65.7	57.0
59	65.3	58.1
58	64.7	NA
57	63.5	NA

Notes: NA=Noise wall unnecessary to meet 65 dB CNEL

As shown in the table, without a block wall along the rear property line, exterior noise levels in the rear yards of Lots 64 through 59 would exceed the City's exterior noise standard of 65 dBA CNEL. Incorporation of Project Design Feature N PDF-1, which provide for the installation of a four-foot solid block wall above grade at the rear property lines of these lots, would reduce exterior noise to under 65 dBA CNEL. Therefore, in regards to exterior noise, the proposed project would be a compatible use relative to noise and exterior noise impacts would be less than significant with incorporation of N PDF-1.

Interior noise levels of 45 dB CNEL are required at residential uses. Typical noise attenuation with closed, double-paned windows in modern frame and stucco construction is about 25-30 dB. Double-paned windows are a standard requirement for new residential construction in California. No enhanced structural features would be required for perimeter units along project roadways other than the ability to close the windows that face Regency Lane and Osterman Road. The rooms with windows facing Regency Lane and Osterman Road

require supplemental ventilation be provided in the form of an operable window(s) on the side(s) of the houses not facing Regency Lane and Osterman Road or dedicated air ducting that brings fresh air into the rooms. Therefore, with incorporation of Project Design Feature N PDF-2, the proposed land use would be a compatible use in regards to interior noise and interior noise impacts would be less than significant.

Project Design Features

The following project design features (PDFs) are incorporated into the proposed project and will help to reduce and avoid potential impacts related to noise.

N PDF-1 A 4-foot above grade solid wall shall be installed at the rear lot lines of lots located along the Regency Lane frontage (Lots 59-64) to reduce exterior noise to below the 65 dB CNEL maximum noise level.

N PDF-2 For rooms with windows facing Regency Lane and Osterman Road, the project applicant shall incorporate and have shown on the buildings plans supplemental ventilation in the form of operable windows (on the sides of the houses not facing Regency Lane and Osterman Road) or dedicated air ducting that brings fresh air into the rooms.

Applicable OSA Program EIR Mitigation Measures

N MM-3 (OSA Program EIR Mitigation Measure MM 3.10-3). A condition of approval shall be placed on all Site Development Permit and/or Use Permit approvals for site-specific developments, which states: Prior to issuance of a building permit, the applicant shall submit plans for shielding of all HVAC equipment to provide noise attenuation that will reduce noise from HVAC systems to 65 dBA or less when measured at 50 feet from the noise source.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact. Construction activities generate ground-borne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Within the "soft" sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

Vibration is most commonly expressed in terms of the root mean square (RMS) velocity of a vibrating object. RMS velocities are expressed in units of vibration decibels. The range of vibration decibels (VdB) is as follows:

65 VdB	-	threshold of human perception
72 VdB	-	annoyance due to frequent events
80 VdB	-	annoyance due to infrequent events
100 VdB	-	minor cosmetic damage

To determine potential impacts of the project's construction activities, estimates of vibration levels induced by the construction equipment at various distances are presented in Table 3.12-5.

Table 3.12-5
Project Related Noise Impact (CNEL in dB at 50 feet from Centerline)

Equipment	Approximate Vibration Levels (VdB)[1]			
	25 feet	50 feet	100 feet	200 feet
Large Bulldozer	87	81	75	69
Loaded Truck	86	80	74	68
Jackhammer	79	73	67	60
Small Bulldozer	58	52	46	40
Pile Driver	93	87	81	75

Notes:
[1] FTA Transit Noise & Vibration Assessment, Chapter 12, Construction, May 2006

The onsite construction equipment that would create the maximum potential vibration is a large bulldozer. The stated vibration source level in the FTA Handbook for such equipment is 87 VdB at 25 feet from the source. By 200 feet the vibration level dissipates to 69 VdB. The closest existing residences to the site are more than 120 feet from the site property boundary across Osterman Road, 170 feet from the site boundary to the west and 200 feet from the nearest proposed Whisler Ranch home to the west. Vibration levels from heavy equipment would thus be well below the 80 VdB annoyance threshold for infrequent/temporary events at the nearest off-site homes. Vibration levels will not exceed either the potential nuisance threshold or the building damage threshold and will be perceived as being "barely perceptible". Construction activity vibration impacts would be less than significant.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

N MM-4 (OSA Program EIR Mitigation Measure MM 3.10-1). A condition of approval shall be placed on all Site Development Permit and/or Use Permit approvals for site-specific developments, which states: Construction staging areas and operation of earth moving equipment on a project site shall be located more than 25 feet away from sensitive receptors (such as residences, schools, hospitals). If equipment will be operated within 25 feet of any sensitive receptor, the applicant shall prepare a construction plan which quantifies the anticipated vibration levels associated with the construction (in VdB) and the length of time the construction is to occur, and documents efforts to minimize impacts associated with groundborne vibration.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. The project would not generate a substantial permanent increase in ambient noise level. Increases in noise levels related to stationary sources associated with the proposed project would not substantially increase the existing noise environment. Similarly, noise from project traffic along local roadways would not significantly increase noise levels in the project area. Ambient noise impacts would remain less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Temporary construction noise impacts will vary markedly because the noise strength of construction equipment ranges widely as a function of the equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated initially by demolition of existing structures and large earth-moving sources, then by foundation and parking lot construction, and finally for finish construction. The demolition and earth-moving sources are the noisiest, with equipment noise levels typically ranging from 75 to 90 dBA at 50 feet from the source.

Figure 2 of the noise technical report (see Appendix G) shows the range of noise emissions for various pieces of construction equipment. Point sources of noise emissions are attenuated by a factor of 6 dB per doubling of distance through geometrical (spherical) spreading of sound waves. The quieter noise sources will drop to a 65 dBA exterior/45 dBA interior noise level by about 200 feet from the source while the loudest may require over 1,000 feet from the source to reduce the 90+ dBA source strength to a generally acceptable 65 dBA exterior exposure level. This estimate assumes a clear line-of-sight from the source to the receiver. Variations in terrain elevation will act as a noise barrier that may interrupt equipment noise propagation. Construction noise impacts are, therefore, somewhat less than that predicted under idealized input conditions.

According to the City of Lake Forest Municipal Code, permissible hours of construction are 7 AM to 8 PM on weekdays and on Saturdays. Construction is not permitted on any national holiday or on any Sunday. These hours are included as conditions on any project construction permits and these limits will serve to minimize any adverse construction noise impact potential. Therefore, construction-related noise impacts are less than significant and no revisions to the OSA PEIR are needed.

Standard Conditions for Noise

N1 Prior to the issuance of a grading permit, the applicant shall produce written evidence, or other evidence deemed reasonably acceptable by the Director of Development Services, that all construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of any residential dwelling unit shall be equipped with properly operating and maintained mufflers.

N2 Grading and construction, construction activities shall be prohibited between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday; 6:00 p.m. and 8:00 a.m. Saturday; and at any time on Sunday or a federal holiday.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no public-use airports within two miles of the project site (Airnav.com 2010), and the site is not in an airport land use plan. The El Toro Marine Corps Air Station, which operated as a training and staging facility between 1942 and 1999, is approximately 2.5 miles to the west of the project site (Orange County Great Park Association 2010). This airfield is now being developed as the Orange County Great Park and no longer supports airport facilities. Therefore, the proposed project would not expose people to excessive noise levels.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There is a privately-operated heliport at the Oakley, Inc. headquarters at 1 Icon, in Lake Forest, a little over a mile from the project site. Due to the distance between the heliport and the project site, helicopters departing from and arriving at the Oakley heliport would not interfere with residences on the proposed project site. Therefore, the proposed project would not expose people to excessive noise levels.

3.13 POPULATION AND HOUSING

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. There are no existing residences or businesses onsite. The project would add 68 detached single-family homes to the site; no commercial uses are proposed. The OSA PEIR assumed a maximum of 75 units and an increase of 218 residents for the project site (Site 5). Using the same factor of 2.91 persons per dwelling unit (as stated in Section 3.11, *Population and Housing* of the OSA Program EIR and General Plan Table LU-3), the proposed project's 68 residential units would result in a population increase of approximately 198 persons within the City of Lake Forest. The City uses Table LU-3 to estimate the average density per dwelling unit, as provided in the Land Use Element of the Lake Forest General Plan. The proposed project is within the estimated population increase of the OSA PEIR. Therefore, the project is within the scope of, and adequately analyzed in, Section 3.11 of the OSA PEIR.

Project construction would generate construction employment. However, as the unemployment rate in Orange County in April 2010 was 9.5 percent (EDD 2010), it is expected that construction employment would draw workers from the local labor force rather than attract workers from out of the region. The project would not involve the extension of roads or other infrastructure offsite that could induce population growth offsite. The project would involve development of roads and utility infrastructure onsite.

The project would not induce population growth beyond the existing population growth forecast for the City and impacts would be less than significant and the project would not require revisions to the OSA PEIR.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. There is no existing housing onsite, and the project would not displace existing housing. The project would develop 68 residential units onsite. Project development would not require the construction of replacement housing offsite. No adverse impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. There are no existing residents onsite and the project would not displace existing residents. The project would develop 68 residential units onsite. Project development would not require the construction of replacement housing offsite, and no adverse impact would occur.

3.14 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

No Impact. Project impacts regarding wildland fire hazards are addressed above in Section 3.8.h and are not addressed further here.

The Orange County Fire Authority (OCFA) provides fire protection and emergency medical services to the City of Lake Forest, and would provide such services to the project. Four OCFA fire stations would respond, as needed, to calls for service from the project; the four stations are described in Table 3.14-1 below.

Table 3.14-1
Orange County Fire Authority (OCFA) Stations

Station	*Location*	*Equipment*	*Daily Staffing*
FS 19	23022 El Toro Road, Lake Forest, about 2.7 miles southwest of the site	1 paramedic engine 1 reserve squad	2 firefighter-paramedics; 2 firefighters; various reserve personnel
FS 38	26 Parker, Irvine, about 2.3 miles west of the site	1 engine 1 medic van	2 firefighter-paramedics; 3 firefighters
FS 54	19811 Pauling, Lake Forest, about 1 mile north of site	1 paramedic assessment engine	1 firefighter-paramedic; 2 firefighters
FS 42	19150 Ridgeline Road, Lake Forest, about 2.6 miles northeast of the site	1 paramedic assessment engine 1 brush engine	1 firefighter-paramedic; 2 firefighters

Source: EIP 2008

OCFA response goals involve reaching an emergency call for service within 5 minutes, 80 percent of the time and for a paramedic to reach the same destination within 8 minutes, 90 percent of the time. The average response time for all emergency calls for service in the OSA PEIR was five and a half minutes (EIP Associates 2008). The current average response time for all emergency calls for service is five minutes (Hernandez, 2010). OCFA's current response time goals are reaching an emergency call within 7 minutes 20 seconds from receipt of call to on scene for first unit 80 percent of the time, and 10 minutes from receipt of call to on scene for a paramedic, 80 percent of the time.

As discussed in the OSA PEIR, the project is expected to result in some increase in calls for fire protection and emergency medical services. The project would add approximately 198 residents and 68 residential units to the OCFA service area. OCFA services are funded partially by development fees. Project impacts to fire protection would be potentially significant. As concluded in Section 3.12 of the OSA PEIR, implementation of Mitigation Measure PS MM-1 would reduce this impact to less than significant. No significant impacts will occur and the proposed project does not require any changes to the OSA PEIR related to fire protection services.

Fire Protection Standard Conditions of Approval (as listed in OSA PEIR Mitigation Monitoring and Reporting Program)

F1 Prior to issuance of a grading permit, the applicant shall obtain approval of the Fire Chief for all fire protection access roads within 150 feet of all portions of the exterior of every structure on the site. The site plan shall indicate existing and any proposed fire hydrants. The site plan shall indicate the locations of the existing and/or proposed fire lane markings. Please contact the OCFA at (714) 573-6100 or visit the OCFA website to obtain a copy of the "Guidelines for Emergency Access."

F2 Prior to the issuance of a grading permit, the applicant shall submit construction details for any access gate to the Fire Chief for review and approval. The Fire Chief will approve the construction details if the Chief reasonably determines that the construction details are in compliance with the Uniform Fire Code and such other Federal, State, and Local laws, regulations, ordinances, standards, and policies as are applicable.

F3 Prior to the issuance of a building permit, the applicant shall submit evidence of the on-site fire hydrant system to the Fire Chief and indicate whether it is public or private. If the system is private, it shall be reviewed and approved by the Fire Chief prior to building permit issuance, and the applicant shall make provisions for the repair and maintenance of the system in a manner meeting the approval of the Fire Chief.

F4 Prior to the issuance of a building permit for combustible construction, the applicant shall submit a letter on company letterhead stating that water for fire-fighting purposes and all weather fire protection access roads shall be in place and operational as required by the Uniform Fire Code before any combustible materials are placed on the site.

F5 Prior to the issuance of a building permit, the applicant shall provide evidence of adequate fire flow. The "Orange County Fire Authority Water Availability for Fire Protection" form shall be signed by the applicable water district and submitted to the Fire Chief for approval. If sufficient water to meet fire flow requirements is not available an automatic fire extinguishing system may be required in each structure affected.

F6 Prior to the issuance of a building permit, plans for the automatic fire sprinkler system shall be submitted to the Fire Chief for review and approval. This system shall be operational prior to the issuance of a certificate of use and occupancy.

F7 Prior to the issuance of a certificate of use and occupancy, the fire alarm system shall be operational.

F8 Prior to the issuance of a building permit, the applicant shall contact the Orange County Fire Authority Hazardous Materials Disclosure Office at (714) 744-0463 to complete and submit a "Hazardous Materials Business Information and Chemical Inventory Packet."

F9 Prior to the issuance of a certificate of use and occupancy, all fire hydrants shall have a "Blue Reflective Pavement Marker" indicating its location on the street or drive per the Orange County Fire Authority Standard and are subject to review and approval by the Fire Chief. On private property these markers are to be maintained in good condition by the property owner.

Conditions of Approval (requested by OCFA)

F10 Prior to issuance of building permit, the applicant shall submit plans for a fire master plan (service code PR145).

F11 Prior to issuance of building permit, the applicant shall a fire sprinkler system (service codes PR400-PR465), if required by code or installed voluntarily.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. The mitigation measure listed applies to and will be implemented for the proposed Whisler Ranch residential project.

PS MM-1 (OSA Program EIR Mitigation Measure 3.12-2). Prior to approval of each Master, Tentative Tract, or Project Tract Map, the site developers shall enter into a Secured Fire Protection Agreement with OCFA that will ensure an adequate level of service is maintained in the City.

b) Police protection?

No Impact. The Orange County Sheriff's Department (OCSD) provides police protection to the City of Lake Forest under contract with the City, and would provide police protection to the project. The California Highway Patrol provides secondary support services to county and city police services as needed. OCSD police services to the City of Lake Forest are based at two facilities: the OCSD Community Policing Center at Lake Forest City Hall, 25550 Commercentre Drive; and an OCSD substation in the City of Aliso Viejo. For Priority One calls for service, that is, emergency calls regarding potential threats to human life, OCSD's response time goal for the City of Lake Forest is to respond within six minutes; actual average response times per month between October 2003 and October 2004 ranged from 4 minutes 45 seconds to 6 minutes nine seconds OSA PEIR, Section 3.12 (EIP Associates 2008).

OCSD staff serving the City of Lake Forest consists of a lieutenant, five Sergeants, three Investigators, 38 Deputies, an Investigative Assistant, five Community Services Officers, and a Crime Prevention Specialist. Services provided through the City include direct and preventative patrol, a Special Enforcement Team, Traffic Enforcement (motorcycle and commercial), a deputy assigned to the regional Directed Enforcement Team, School Resource Officers, Bike Patrol, Neighborhood and Business Watch programs, as well as emergency preparedness classes for the community (OCSD 2010).

Project development is expected to result in some small increase in calls for police services. Such increase is not expected to create a need for new police facilities, and impacts to police protection would remain less than significant.

c) Schools?

No Impact. The project site is within Saddleback Valley Unified School District (SVUSD), which would provide K-12 public school services to the project. The SVUSD schools that would serve the project are listed in Table 3.14-2 below.

Table 3.14-2
Schools (Saddleback Valley Unified School District) Serving Project Site[1]

School	Grades Taught	Location	Capacity (Fall 2004)	Enrollment (2008-2009)[2]
Lake Forest Elementary School	K-6	21801 Pittsford Drive, Lake Forest, about 1 mile south of site	1,010	802
Serrano Intermediate School	7-8	24642 Jeronimo Road, about 2.6 miles southwest of site	1,330	1,384
Trabuco Hills High School	9-12	27501 Mustang Run, Mission Viejo	1,990	3,270

1 Schools selected using SVUSD website School Locator (http://www.svusd.org/locator/) searching for 20857-20925 Parkside in Lake Forest, about 0.1 mile southeast of site; searches for Osterman Road and Regency Lane did not return results.
2 CDE 2010

The capacity and enrollment data in Table 3.14-2 above are from about five years apart. Lake Forest Elementary School's enrollment in 2008-09 was below its 2004 capacity, and Serrano Intermediate School's enrollment was above its capacity by 54 students. However, Trabuco Hills High School's enrollment exceeded its capacity by 1,280 students.

As shown in Table 3.14-3 below, the project is estimated to generate 42 students, based on student generation rates used in the OSA PEIR.[18]

Table 3.14-3
Student Generation by Proposed Project

Level	Student Generation	
	Per Unit	Total
Elementary School	0.399	27
Middle School	0.103	7
High School	0.111	8

The need for additional school services is addressed by compliance with school impact assessment fees per Senate Bill 50 (SB 50). Payment of fees is considered full mitigation per California Government Code Section 65995(h). SB 50 establishes a per-pupil funding formula for new school construction, requires local districts to match state funds for new construction, allows school districts to establish reimbursement agreements with developers to cover their fees, and authorizes an Affordable Housing Assistance Program. These fees are collected by school districts at the time of issuance of building permits.

The proposed project would be required to pay school impact fees pursuant to under SB 50 and the School Facilities Funding Mitigation Agreement, which is part of the Development Agreement. Payment of these fees would be in excess of SB50 fees and would offset impacts from increased demand for school facilities and services by providing an adequate financial base to construct and equip new and expanded schools. As

[18] The number of students the project would generate was estimated using student generation factors from the California Office of Public School Construction (OPSC 2007). Elementary School District: 0.5 students per dwelling unit; High School District: 0.2 students per dwelling unit. Prorating the Elementary School District rate for grades K–6 (7 of 9 years) and 7–8 (2 of 9 years) gives rates of 0.39 elementary school students and 0.11 middle school students per unit.

analyzed in the OSA PEIR, Section 3.12, impacts related to school services would be reduced to a less than significant level with implementation of mitigation measure PS MM-2.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. The mitigation measure applies to and will be implemented for the proposed Whisler Ranch residential project.

PS MM-2 (OSA Program EIR Mitigation Measure 3.12-3). Consistent with current City requirements, the developer shall pay statutory school fees in effect at the time of issuance of building permits to SVUSD and/ or enter into a mitigation agreement.

d) Parks?

No Impact. The project is estimated to add approximately 198 persons to the City. Thus, the project would result in some increase in demand for parks and recreational facilities. The project would include a linear park extending across the project site near the northwestern site boundary that would include approximately 11,800 square feet of turf plus a paved walking path and a shuffleboard court.

There are 30 City parks and recreational facilities in Lake Forest totaling 217 acres. These facilities are equipped with a variety of recreation improvements including team sports facilities, picnic tables, pedestrian and bicycle paths, and children's play areas. Regency Park, opposite Regency Lane southeast of the project site, is roughly six acres in area. The City Zoning Map shows a future park site, approximately nine acres in area, on the north side of Regency Lane, opposite Regency Lane from part of the project site and from Regency Park. The General Plan designation for the future park site is Community Park/Open Space; thus, there is a planned parkland expansion across Regency Lane from the project site.

As part of the Development Agreement, the neighborhood park mitigation fee of $16,151 per unit would be applied to the proposed project. Considering the existing acreage of parkland and recreational facilities in the City, the linear park that would be developed as part of the project, and the neighborhood park mitigation fee applied to the proposed project, project development is not expected to result in any additional such increased demand for parks as to require construction of new or expanded parks. Impacts would remain less than significant, as analyzed in the OSA PEIR and no mitigation measures are needed.

Standard Conditions and Legal Requirements for Parkland and Recreation

Compliance with the City's Subdivision Ordinance (Title 7 of the Lake Forest Municipal Code) and Development Agreement obligations is required of all new residential development. Section 7.38 of the City's Municipal Code requires subdivision developments to dedicate land for parks and recreation facilities or to pay in-lieu fees and the discretion of the Lake Forest Planning Commission.

e) Other public facilities

No Impact. The Orange County Public Library provides library services to the City of Lake Forest through two branches: El Toro Library at 24672 Raymond Way, approximately 3.4 miles southwest of the project site; and the Foothill Ranch Library at 27002 Cabriole Way in Lake Forest, approximately 1.3 miles north of the site. The El Toro Library has an 85,000-item collection, while the Foothill Ranch Library contains 65,000 items. The County of Orange's standards for library service are 0.2 square feet of library space and 1.5 volumes of library materials per person. The two libraries in Lake Forest have a total of approximately

150,000 items while the City of Lake Forest's estimated population in 2010 is 80,604, for 1.86 items per person; thus, the Orange County Public Library is meeting the County standard for library collection size for the City of Lake Forest.

The project would add approximately 198 residents to the project site. At the County standard of 0.2 square feet and 1.5 collection items per person, the project would create needs for 39.6 square feet of library space and 309 additional collection items. The project developer would pay impact fees to the City of Lake Forest to offset project-related impacts to the Orange County Public Library system. Impact fees paid by the project applicant and provided to the Orange County Public Library would reduce project impacts to libraries, and impacts would remain less than significant and no revisions to the OSA PEIR are needed.

Applicable OSA Program EIR Mitigation Measures

The following mitigation measure is taken directly from the OSA PEIR with no changes made. It has been renumbered in this document for ease of reference. All of the mitigation measures listed apply to and will be implemented for the proposed Whisler Ranch residential project.

PS MM-4 (OSA Program EIR Mitigation Measure 3.12-4). Prior to issuance of building permits, the developer(s) shall pay to Orange County Public Library the library impact fees in effect at the time of building permit issuance.

3.15 RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. Project impacts to parks are discussed above in Section 3.14.d. Project development is not expected to result in increased use of existing parks so as to cause or accelerate substantial physical deterioration of parks or recreation facilities. Impacts would be less than significant and the proposed project does not require any changes to the OSA PEIR related to recreation.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The project would include one linear park that would span the project site near the northwestern site boundary and would be roughly 0.4 acre in area. Nearly the entire park would consist of turf landscaping, a paved pedestrian path, and a shuffle board in the southern area of the linear park ; thus, the park would be intended mainly for passive recreation. The impacts of development of the linear park would be part of the impacts of development of the whole project that are discussed throughout this document. The project would not involve the development of off-site recreational facilities but would include contributions through the Development Agreement to provide funding for an off-site sports park. Impacts would be less than significant and the proposed project does not require any changes to the OSA PEIR related to recreation.

Standard Conditions and Legal Requirements for Recreation

Compliance with the City's Subdivision Ordinance Title 7 (of the Lake Forest Municipal Code) and Development Agreement obligations is required of all new residential development.

3.16 TRANSPORTATION/TRAFFIC

A Traffic Impact Assessment (TIA; Appendix H) was prepared by Infrastructure Group, Inc., to determine existing and future traffic volumes and trip distribution and counts, and to determine whether additional turn lanes would be needed at the Osterman Road/Regency Lane and "A" Street/Osterman Road intersections. These two intersections would receive the project-generated traffic and they were not analyzed in the OSA PEIR.

TIA Methodology

The assessment of intersection conditions addresses LOS, in terms of vehicle control delay (in seconds per vehicle) for signalized and unsignalized intersections. The level of service grades (LOS A-F), as reported in Highway Capacity Manual (HCM2000), are dependent on the volume-to-capacity (V/C) ratios and vehicle control delay (in seconds) at the signalized and unsignalized intersection, respectively. Unsignalized study area intersections have been analyzed using the HCM2000 method. The Synchro (Version 7) software was used to determine intersection LOS. Synchro is consistent with the HCM2000 methodologies.

The degree of congestion at an intersection is described by the level of service, which ranges from A to F, with A representing free-flow conditions with little delay and F representing over-saturated traffic flow throughout the peak hour. Brief descriptions of the six levels of service, as abstracted from the HCM, are shown in Table 3.16-1. The Lake Forest Transportation Mitigation Ordinance requires mitigation measures to mitigate an impact of development that increases traffic by more than 0.01 Intersection Capacity Utilization (ICU) at an intersection operating at Level of Service E or F.

Table 3.16-1
Levels of Service Definitions

LOS	*Unsignalized Intersection Delay per Vehicle (sec)*
A	≤ 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

Existing Conditions

Existing Traffic Volumes

Existing traffic counts were conducted during the AM and PM peak hours at the intersection of Osterman Road and Regency Lane in February 2010. During the AM peak hour, 534 vehicles travelled through the Osterman Road/Regency Lane intersection. During the PM peak hour, 640 vehicles travelled through the intersection.

Existing Level of Service

Based on the analysis methodology described above, the existing AM and PM peak hour traffic volumes were input into the Synchro software to determine the existing LOS at the Osterman Road/Regency Lane intersection. The LOS calculation are given in Table 3.16-2. Based on the results of the analysis, the

Osterman Road/Regency Lane intersection is currently operating at satisfactory levels of service with LOS B in the AM and PM peak hours.

Table 3.16-2
Existing Intersection LOS

Direction	Approach Delay (sec)	Approach LOS
Existing AM (Osterman Road/Regency Lane)		
Eastbound	12.7	B
Northbound	0.3	A
Southbound	0.0	A
Existing PM (Osterman Road/Regency Lane)		
Eastbound	13.7	B
Northbound	1.1	A
Southbound	0.0	A

Source: Infrastructure Group, Inc. 2010

Vehicle Queuing

The existing vehicle queue at all approaches of the intersection was reviewed. Based on the LOS sheets, the 95th percentile queue at the northbound approach (Osterman Road) is 25 feet (approximately one vehicle) in the AM peak hour, and 18 feet (approximately one vehicle) in the PM peak hour. The 95th percentile queue at the eastbound and westbound approaches was nominal (one foot or less).

Future Conditions

Project Trip Generation

The project proposes the construction of 68 single-family dwelling units. The peak-hour trips for the proposed residential use were generated using trip rates contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th edition (2008). When complete, the proposed project has the potential to generate approximately 651 ADT, 51 AM peak hour (13 inbound and 38 outbound) and 69 PM peak hour (43 inbound and 26 outbound) trips.

Project Trip Distribution

Project trip distribution was based on the existing traffic along Osterman Road and Regency Lane. The following project trip distribution in Table 3.16-3 was used in the analysis.

Table 3.16-3
Project Trip Distribution

Direction	AM Peak Hour (Percentage)	PM Peak Hour (Percentage)
North on Osterman Road (Inbound/Outbound)	25%	60%
South on Osterman Road (Inbound/Outbound)	75%	40%

Source: Infrastructure Group, Inc. 2010

Existing Condition plus Project

Traffic generated from the residential project was added to the existing traffic volumes at the Osterman Road/Regency Lane intersection and the Osterman Road/"A" Street (proposed project driveway)

intersection. Based on the results, Osterman Road/Regency Lane will operate at LOS B (in the eastbound direction) during the AM and PM peak hour, and Osterman Road/"A" Street will operate at LOS A during the AM and PM peak hour.

Table 3.16-4
Existing plus Project Intersection LOS

Direction	*Approach Delay (sec)*	*Approach LOS*
Existing Plus Project AM (Osterman Road/Regency Lane)		
Eastbound	13.3	B
Northbound	0.3	A
Southbound	0.0	A
Existing Plus Project PM (Osterman Road/Regency Lane)		
Eastbound	14.2	B
Northbound	1.3	A
Southbound	0.0	A
Existing Plus Project AM (Osterman Road/"A" Street)		
Eastbound	0.5	A
Northbound	0.0	A
Southbound	9.8	A
Existing Plus Project PM (Osterman Road/"A" Street)		
Eastbound	1.3	A
Northbound	0.0	A
Southbound	9.7	A

Source: Infrastructure Group, Inc. 2010

Vehicle Queuing With Project

At the intersection of Osterman Road/Regency Lane, the 95th percentile queue at the northbound approach (Osterman Road) is 32 feet (approximately two vehicles) in the AM peak hour, and 21 feet (approximately one vehicle) in the PM peak hour. The 95th percentile queue at the eastbound and westbound approaches (Regency Lane) was nominal (one foot or less) in the AM and PM peak hour.

At the intersection of Osterman Road/"A" Street, the 95th percentile queue at the northbound approach (Osterman Road) is nominal (one foot) in the AM and PM peak hour. The vehicle queue at the eastbound approach ("A" Street) is nominal (four feet or less) in the AM peak hour and PM peak hour. It should be noted that there is no vehicle queue in the southbound approach (Osterman Road).

Based on the limited vehicle queues, adequate stopping sight distance and flat topography, additional turn lanes are not warranted at the intersection of Osterman Road/Regency Lane and Osterman Road/"A" Street. In addition to the operation and vehicle queuing analysis, the City and County Standard Plans were also reviewed to determine if turn pockets were warranted at these locations. Due to the classification of the roadway, additional turn pockets are not warranted. In addition, the proposed length of "A" Street between Osterman Road and "B" Street is adequate to accommodate the outbound vehicles in the AM and PM peak hour.

Summary of Findings

The Lake Forest Transportation Mitigation Ordinance requires mitigation measures to mitigate an impact of development that increases traffic by more than 0.01 ICU at an intersection operating at Level of Service E or F. Both Osterman Road/Regency Lane & Regency Lane/Lake Forest Drive operate at acceptable levels of

service with and without the proposed development. As described in the TIA, there is no need to dedicate a left turn lane on any of the streets studied in the traffic analysis ("A" Street, Osterman Road, and Regency Lane).

The Lake Forest Transportation Mitigation Ordinance requires applicants to submit traffic studies along with their tentative maps. The scope for a traffic study establishes the geographical limits of the traffic as determined by distribution patterns and specifically includes the property-specific intersections in that review. This traffic analysis uses existing conditions as the baseline and provides existing plus project condition results. The City's traffic engineer then coordinates to run the data provided in the traffic study through the Lake Forest Traffic Analysis Model to determine whether the project has a cumulative impact. The results of the model run are then compared to the traffic assumptions/analysis in the OSA PEIR. Any project causing a greater traffic impact than previously analyzed in the PEIR could result in cumulative impacts. The Whisler Ranch project model runs were compared to the OSA PEIR traffic analysis by the City's Traffic Engineer to analyze the project's cumulative impacts. The City determined that the project's traffic impacts are within the scope studied by the OSA PEIR and have no further impacts, cumulative or otherwise exist. Therefore, no revisions to the OSA PEIR related to traffic impacts are necessary.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

No Impact. The roadway network that serves the project site can be assessed for performance by the standards presented in the Highway Capacity Manual (HCM). Since the main forms of transportation used by residents of the proposed project would be cars, the TIA analyzed the proposed project's potential impacts to the level of service at intersections within the study area, as described above. Table 3.16-2 shows the existing LOS at the Regency Lane/Osterman Road intersection and the Osterman Road/"A" Street intersection and Table 3.16-4 shows the existing plus project traffic LOS at these same intersections. The existing plus project traffic LOS assumes a build out date of 2011. As shown in these tables, the proposed project would result in intersection LOS values of A and B; it would not create an unacceptable LOS at these intersections. Therefore, the project will not create a significant impact.

Although there are no significant impacts associated with the proposed project, project design features, described below, have been included as part of the project at the Osterman Road/Regency Lane and Osterman Road/"A" Street intersections to help accommodate project traffic flow. Signalization is not warranted at either location.

For other modes of transportation, the proposed project is not expected to cause any potential impacts. The project site is accessible by bus via the Orange County Transportation Authority Routes 89 (along El Toro Road) and 177 (along Lake Forest Drive). The amount of ridership generated by the proposed project would be minimal and would not cause a change to the existing service levels of these bus routes. Pedestrian and bicycle networks would also not experience a significant increase in use as a result of this project and no impacts to bicycle and pedestrian networks would occur.

Project Design Features

TT PDF-1 Along southbound Osterman Road at the Osterman Road/"A" Street intersection, the applicant shall paint the curb red for 150 linear feet from the curb return and place a no parking sign along the side of the road to facilitate a defacto right turn lane (with a minimum

19-foot width).

TT PDF-2 Along eastbound Regency Lane at the Regency Lane/Osterman Road intersection, the applicant shall paint the curb red for 150 linear feet from the curb return and place a no parking sign along the side of the road to facilitate a defacto right turn lane (with a minimum 19-foot width).

TT PDF-3 Along northbound Osterman Road at the Regency Lane/Osterman Road intersection, the applicant shall paint the curb red for 150 linear feet from the curb return and place a no parking sign along the side of the road to facilitate a defacto right turn lane (with a minimum 19-foot width).

TT PDF-4 Along eastbound and westbound "A" Street, the applicant shall paint the curbs red and place no parking signs along the entire length of the road.

Fee Program and Parking Standard Conditions of Approval

FFP1 Prior to the issuance of a building permit, the applicant shall pay fees to the City of Lake Forest as prescribed in the Major Thoroughfare and Bridge Fee Program, including but not limited to the following:

- Foothill Circulation Phasing Plan – Zone 2
- Foothill/Eastern Transportation Corridor – Zone A
- Santiago Canyon Road
- Drainage Fees
- El Toro Road

Applicable OSA Program EIR Project Design Features

TT PDF-5 Participation in Lake Forest Transportation Mitigation Program (LFTM) is required as part of the Development Agreement. (City of Lake Forest OSA PEIR (EIP Associates 2008)).

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No Impact. The Orange County Congestion Management Program (CMP) monitors the service levels of specified intersections and roadway segments in Orange County. The project study area does not have any intersections or roadway segments identified in the 2007 Orange County CMP. Additionally, both intersections in the study area that were assessed in the TIA would not have unacceptable levels of service (see Tables 3.16-1 and 3.16-4). Therefore, no project-related impacts to regional service standards would occur and no revisions to the OSA PEIR are needed.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. Air traffic patterns would not be altered by the proposed project. The nearest airport, John Wayne Airport in Santa Ana, is over 11 miles to the west of the project site. The proposed project would not

increase use of the airport, causing an increase in air traffic levels, and it would not directly cause a change in flight paths due to the construction of tall buildings. No impacts to air traffic patterns would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed project would not significantly increase hazardous conditions due to design features or incompatible uses. As a subdivision, the proposed project includes a tentative tract map that must be finalized in accordance with the City of Lake Forest's design standards for subdivisions, reviewed by the City Department of Public Works, and approved by the Lake Forest City Council (City of Lake Forest Municipal Code Chapter 7.24, Final Maps – Requirements and Procedures). By following the design standards for subdivisions, as required by the City, hazardous conditions due to design features and incompatible uses would be reduced. Therefore, impacts would be less that significant and revisions to the OSA PEIR is required.

e) Result in inadequate emergency access?

No Impact. The proposed project site would not have inadequate emergency access. The onsite roadways and cul-de-sacs have been designed in accordance with the City of Lake Forest's subdivision design standards (Lake Forest Municipal Code Chapter 7.08 – Standards of Design) and the final tentative map would be subject to review by the Public Works Department and approval by the City Council (City of Lake Forest Municipal Code Chapter 7.24, Final Maps – Requirements and Procedures). By following the design standards for streets and cul-de-sacs in the City's Municipal Code and through the process of review and approval by the City, emergency access would be maintained. See Section 3.14, *Public Services* above for applicable Standard Conditions of Approval related to emergency access. The proposed project would have less than significant emergency access impacts.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. Public transit facilities near the project site include the OCTA bus Routes 89 and 177, along El Toro Road and Lake Forest Drive, respectively. Lake Forest Drive is also designated as a Class II bike lane road (City of Lake Forest 1994). However, there are no public transit plans adopted for the project area. The operation of the proposed project would increase the amount of traffic on surrounding roadways, including bus ridership and bicycle traffic, by a negligible amount and the performance of these public transit facilities would not decrease. As a result, the proposed project would not have impacts on public transit facilities and revisions to the OSA PEIR are needed.

g) Result in inadequate parking capacity?

No Impact. The City's minimum parking requirement for single-family residential uses is two parking spaces (covered) per residence as well as 0.2 guest parking spaces per residence. Based on this parking requirement, a total of 136 resident parking spaces and 13.6 guest parking spaces are required. Accordingly, the project would provide 173 resident parking spaces as part of the residential units, 14 guest parking spaces, 2 handicapped parking spaces, and 21 general on-street parking spaces would also be provided. This exceeds the City's parking requirement. Therefore, the proposed project would not result in inadequate parking capacity and impacts would remain less than significant.

3.17 UTILITIES AND SERVICE SYSTEMS

a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. Treatment requirements for discharges to storm water established by the State Water Resources Control Board (SWRCB), and the Santa Ana Regional Water Quality Control Board, and San Diego Regional Water Quality Control Board, are discussed above in Sections 3.6.b and 3.9.l. Plans that have been prepared (Water Quality Managementt Plan [WQMP]), or will be prepared (Stormwater Quality Pollution Protection Plan [SWPPP]), and that would be implemented by the project to minimize pollution of stormwater, are also discussed in the two fore-mentioned sections. The project would comply with requirements of the Santa Ana Regional Water Quality Control Board for treatment of waste water discharges that could affect stormwater. Impacts would remain less than significant.

b) Require or result in the construction of new water or waste water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact.

Water Treatment Facilities

Water treatment facilities filter and/or disinfect water before it is delivered to customers. The Irvine Ranch Water District (IRWD) would provide water to the project. Currently, approximately 50 percent of IRWD's potable water supply comes from imported water purchased from the Metropolitan Water District of Southern California (MWD). The balance of the IRWD potable supplies come from locally-developed groundwater, from the Orange County Main Groundwater Basin (OCMGWB) including the Irvine Sub-basin of the OCMGWB.

Some of the groundwater produced by IRWD is treated by the Deep Aquifer Treatment System (DATS) in Santa Ana and the Irvine Desalter Project (IDP) in Irvine. IRWD can process up to 8,000 acre-feet per year through the DATS.[19] The IDP removes salts and nitrates that occur naturally or are remnants of past agricultural activity. The IDP produces 5,100 acre-feet of drinking water per year, and 3,900 acre-feet of irrigation water per year (IRWD 2005).

The MWD operates five water treatment plants with a total capacity of approximately 2.5 billion gallons per day (MWDSC 2009). There are sufficient water treatment facilities in the region to meet the project's demand for potable water. As analyzed in the OSA PEIR, project development would not require construction of new or expanded water treatment facilities.

The project-related demand for potable water was determined in the water supply assessment completed by IRWD in 2005 (IRWD 2005) for the OSA Program EIR. Since the OSA Program EIR assumed a build-out of 75 detached single-family units on the project site, the proposed project would be within the scope of the WSA. Additional water demand would not be generated by the proposed project. Therefore, revisions to the OSA PEIR are not required.

[19] One acre-foot is approximately 325,851 gallons.

Wastewater Treatment Facilities

IRWD provides wastewater treatment for its service area and would provide wastewater treatment for the proposed project. IRWD operates two wastewater treatment facilities. The Michelson Water Reclamation Plant (MWRP) in the City of Irvine has a capacity of 18 million gallons per day (mgd); average flows through the facility in 2001 were 14 mgd. The Los Alisos Water Reclamation Plant in Lake Forest has a capacity of 7.5 mgd, and, in 2001, had average flows of 4.4 mgd (EIP Associates 2008).

Project operation is forecast to generate approximately 20,944 gallons of wastewater per day, estimated as 80 percent of water use. There is sufficient wastewater treatment capacity in the region for forecast project wastewater generation, and development of the project would not require construction of new or expanded wastewater treatment facilities. Impacts would remain less than significant.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The project would include development of on-site drainage facilities. A sloped area of approximately 1.2 acres along the northwestern site boundary would drain to Regency Lane, while the balance of the site would drain to Osterman Road. The project would include several curb opening catch basins along proposed private streets, and on Regency Lane; and storm drains under parts of the proposed private street network, that would discharge to a storm drain under Osterman Road. Impacts from construction and operation of on-site storm drainage facilities would be part of the impacts of the project as a whole that are analyzed throughout this Initial Study/Addendum.

The project would decrease runoff from the site resulting from a 100-year storm by 1 cfs, (-1 percent change) less than under existing conditions. Project drainage features, including proposed storm drains, have been designed to accommodate drainage from a 100-year storm event. The rate and volume of runoff discharging from proposed storm drains to existing storm drains in Regency Lane and Osterman Road would not exceed the capacity of the existing storm drains in the two roadways (R. T. Quinn & Associates 2010a). Project development would not require the construction of new or expanded off-site storm drainage facilities. Impacts would be less than significant, and no mitigation is needed.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Water supplies available in the region, and project impacts to water supplies, are discussed above in Section 3.17.b. As mentioned, a WSA for the OSA PEIR prepared by IRWD in 2005 found that adequate water supplies are available for the OSA. The proposed project is within the scope of this WSA and no additional water would be demanded. There are sufficient water supplies to meet the project's forecast water demands. Impacts would remain less than significant and no revisions to the PEIR are needed.

e) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. Wastewater treatment capacity in the region, and project wastewater generation, are discussed above in Section 3.17.b. There is sufficient wastewater treatment capacity in the region for the project's estimated wastewater generation, and project development would not require the construction of new or

expanded wastewater treatment facilities. Impacts would be less than significant, and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

No Impact. Orange County is served by three landfills operated by OC Waste & Recycling, a County agency; the landfills are described below in Table 3.17-1.

Table 3.17-1
Landfill Capacity

Landfill	*Location*	*Remaining Capacity*	*Maximum Permitted Disposal Rate (tons per day)*	*Estimated Closing Date*
Frank R. Bowerman	Irvine	59,411,872 cubic yards (31,666,528 tons)	8,500	2022
Olinda Alpha	Brea	38,578,383 cubic yards (20,562,278 tons)	8,000	2013
Prima Deshecha	San Juan Capistrano	87,384,799 cubic yards (46,576,098 tons)	4,000	2067
	Total	**185,375,054 cubic yards (98,804,904 tons)**	**20,500**	**-**

Source: CalRecycle 2010a

As shown above in Table 3.17-1, the three landfills in Orange County combined have remaining capacity of over 98 million tons, and total permitted disposal rate of 20,500 tons per day.

Solid Waste Diversion

Much of the solid waste generated in Lake Forest is diverted from landfills. The City operates 38 solid waste diversion programs, including recycling, composting, household hazardous waste, and public education programs (CalRecycle 2010b).

Solid Waste Generation

Project operation is estimated to generate 7 pounds of solid waste per day per dwelling unit (EIP Associates 2008), for a total of 476 pounds per day. Some of that waste would be diverted from landfills. There is adequate landfill capacity in the region for estimated project solid waste generation, and project development would not require expanded solid waste disposal capacity. Impacts would be less than significant, and no mitigation is needed.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The project would comply with federal, state, and local laws and regulations governing solid waste, and no adverse impact would occur.

Federal

The Resource Conservation and Recovery Act (RCRA) of 1976 and the Solid Waste Disposal Act of 1965 govern solid waste disposal. The USEPA administers these laws.

State

Assembly Bill 939

AB 939 (Integrated Solid Waste Management Act of 1989; Public Resources Code 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000, and also requires each county to prepare a countywide siting element specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the jurisdiction that cannot be reduced or recycled for a 15-year period.

Jurisdictions select and implement the combination of waste prevention, reuse, recycling, and composting that best meets the needs of their residents while achieving the diversion requirements of the act. Cities and counties also may work cooperatively toward the 50 percent goal by forming a regional agency.

In 2008 the target disposal rates for the City of Lake Forest under AB 939 were 10.6 pounds per person per day (PPD) for residential solid waste, and 24.2 pounds per employee per day for solid waste from businesses. Actual disposal rates in the City in 2008 were 5.8 PPD from residences and 12.2 PPD for businesses (CalRecycle 2010b). Therefore, the City of Lake Forest is complying with AB 939 goals.

Assembly Bill 1327

AB 1327, the California Solid Waste Reuse and Recycling Access Act of 1991, added Chapter 18 to Part 3 of Division 30 of the Public Resources Code. Chapter 18 required the California Integrated Waste Management Board to develop a model ordinance requiring adequate areas for the collection and loading of recyclable materials in development projects. Local agencies were then required to adopt and enforce either the model ordinance, or an ordinance of their own, by September 1, 1993. The project would include areas for the collection of recyclable material.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

No Impact. There is no change to the OSA project's potential impacts to degrade the quality of the environment no revisions to the PEIR are necessary.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No Impact. As analyzed throughout this Initial Study/Addendum**,** there is no change to the OSA project's cumulative impacts and no revisions to the PEIR are necessary.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

No Impact. As analyzed throughout this Initial Study/Addendum, the Whisler Ranch project does not change the OSA project's environmental effects and no revisions to the PEIR are necessary.

This page intentionally left blank.

4. References

4.1 PRINTED REFERENCES

Department of Toxic Substances Control (DTSC). 2001, October 1. Environmental Glossary.

GeoTek Inc. 2009, July 6. Phase I Environmental Site Assessment, APN 104-180-04, West of Osterman Road and Regency Lane, Lake Forest, California.

———. Limited Phase II Environmental Site Assessment, APN 104-180-04, Lot 5 of Tract No. 950, West of Osterman Road and Regency Lane, City of Lake Forest, Orange County, California.

———. 2007, January 15. Preliminary Geotechnical Evaluation for 12.5-acre Site, APN 104-180-04, City of Lake Forest, County of Orange, California.

Infrastructure Group, Inc. 2010, March. Whisler Ranch Focused Traffic Analysis.

PCR. 2010, June 10. Results of the March Sensitive Plant Survey for the Whisler Ranch Project Site, City of Lake Forest, Orange County, California.

R. T. Quinn & Associates. 2010, April 30. Hydrology Study for Whisler Ranch, 20001 Osterman Road, Lake Forest, CA 92630.

———. 2010, April 30. Water Quality Management Plan (WQMP) for Whisler Ranch, 20001 Osterman Road, Lake Forest, CA 92630.

4.2 PERSONAL COMMUNICATIONS

Hernandez, Michelle. 2010, July 1. Orange County Fire Authority.

4.3 WEB SITES

Airnav.com. 2010. Airport Information. http://www.airnav.com/airports.

California Department of Education (CDE), Educational Demographics Unit. 2010, June 9. Dataquest. http://data1.cde.ca.gov/dataquest/.

California Department of Finance. 2010, May. E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark. http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2001-10.

California Department of Forestry and Fire Protection (Cal Fire). 2007, September 27. Draft Fire Hazard Severity Zones in LRA: Orange County. http://frap.cdf.ca.gov/webdata/maps/orange/fhszl06_1_map.30.pdf.

4. References

California Division of Mines and Geology. 2001, January 17. Seismic Hazard Zones Map, El Toro Quadrangle. http://gmw.consrv.ca.gov/shmp/download/pdf/ozn_elt.pdf.

———. 1994. Revised Mineral Land Classification Map, Aggregate Resources Only. Open File Report 94-15, Plate 3.

California Geological Survey (CGS). 2010, June 3. Fault Activity Map of California. http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

California Department of Resources Recycling and Recovery (CalRecycle). 2010a, June 10. Facility/Site Listing: Orange County. http://www.calrecycle.ca.gov/SWFacilities/Directory/SearchList/List?COUNTY=Orange&FAC=Disposal.

———. 2010b, April 21. Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report. http://www.calrecycle.ca.gov/LGCentral/Tools/MARS/JurDrSta.asp?VW=In.

Division of Land Resource Protection (DLRP). 2009, August. Orange County Important Farmland 2008. ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2008/ora08.pdf.

———. 2004. Agricultural Preserves: Orange County. ftp://ftp.consrv.ca.gov/pub/dlrp/WA/Map%20and%20PDF/Orange/orange_2004.jpg.

EIP Associates, Inc. 2008. City of Lake Forest Opportunities Study Program EIR. http://www.lakeforestca.gov/depts/ds/planning/op_study/peir.asp.

Employment Development Department (EDD). 2010. Industry Employment and Unemployment Rates for Counties. http://www.labormarketinfo.edd.ca.gov/?pageid=131.

Federal Emergency Management Agency (FEMA). 2009, December 3. Flood Insurance Rate Map 06059C0316J. http://map1.msc.fema.gov/idms/IntraList.cgi?displ=wsp/item_10666438.txt.

———. 2010, June 7. Definitions of FEMA Flood Zone Designations. http://www.msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%20Flood%20Zone%20Designations.

Irvine Ranch Water District (IRWD). 2005a, November. 2005 Urban Water Management Plan. http://www.irwd.com/BusinessCenter/UWMP-2005-F.pdf.

———. 2005b. Irvine Ranch Water District Assessment of Water Supply. http://www.lakeforestca.gov/depts/ds/planning/op_study/peir.asp.

Lake Forest, City of. 1994. City of Lake Forest General Plan. http://www.lakeforestca.gov/depts/ds/planning/plan_docs/default.asp.

Metropolitan Water District of Southern California (MWDSC). 2010, April 6. Spotlight on Water: Treatment Process. http://www.mwdh2o.com/mwdh2o/pages/yourwater/ywater01.html#.

Office of Emergency Services (OES). 2007, November. Dam Inundation (DVD).

Office of Public School Construction (OPSC). 2007. SAB 50-01 Enrollment Certification/Projection Calculator. http://www.applications.opsc.dgs.ca.gov/ab1014/sab5001entry.asp.

Orange County Nitrogen and Selenium Management Program (OCNSMP). 2010, August 27. http://www.ocnsmp.com/index.asp.

Orange County Sheriff's Department (OCSD). 2010, June 9. Patrol Areas: Lake Forest. http://www.ocsd.org/index.php?option=com_content&view=article&id=259&Itemid=434.

US Geological Survey (USGS). 2009, October 27. The Modified Mercalli Intensity Scale. http://earthquake.usgs.gov/learn/topics/mercalli.php.

———. 2004. Preliminary Digital Geological Map of the 30' X 60' Santa Ana *Quadrangle,* southern California*.* http://pubs.usgs.gov/of/1999/of99-172/sanana2dmu.pdf.

Wald, et al. 1999, August. Relationships Between Peak Ground Acceleration, Peak Ground Velocity, and Modified Mercalli Intensity in California. Earthquake Spectra. Vol. 15, No. 3.

This page intentionally left blank.

5. List of Preparers

LEAD AGENCY

Carrie Tai, AICP
City of Lake Forest Development Services, Senior Planner

THE PLANNING CENTER

Konnie Dobreva, Senior Planner

Nicole Vermilion, Senior Planner

Michael Milroy, Assistant Planner

John Vang, Assistant Planner

Leah Boyer, Assistant Planner

This page intentionally left blank.

Appendix A.
Air Quality Study

This page intentionally left blank.

Appendix B. Biological Studies

This page intentionally left blank.

Appendix C. Geotechnical Study

This page intentionally left blank.

Appendix D.
Preliminary WQMP and Hydrology

This page intentionally left blank.

Appendix E1.
Phase I Site Assessment

This page intentionally left blank.

Appendix E2.
Limited Phase II Site Assessment

This page intentionally left blank.

Appendix F.

Fuel Modification Plan

This page intentionally left blank.

Appendix G.

Noise Study

This page intentionally left blank.

Appendix H.

Traffic Study

This page intentionally left blank.